

01 THE HEALTHY BUILDINGS MOVEMENT Copyright@ 2018 by International WELL Building Institute PBC. All rights reserved.

THE WELL BUILDING STANDARD™

The leading tool for advancing health ϑ well-being in buildings and communities globally.

WELL IS FOR PEOPLE





WE SPEND ABOUT 90% OF OUR TIME INDOORS.



OUR ENVIRONMENT IS CHANGING HOW WE LIVE.



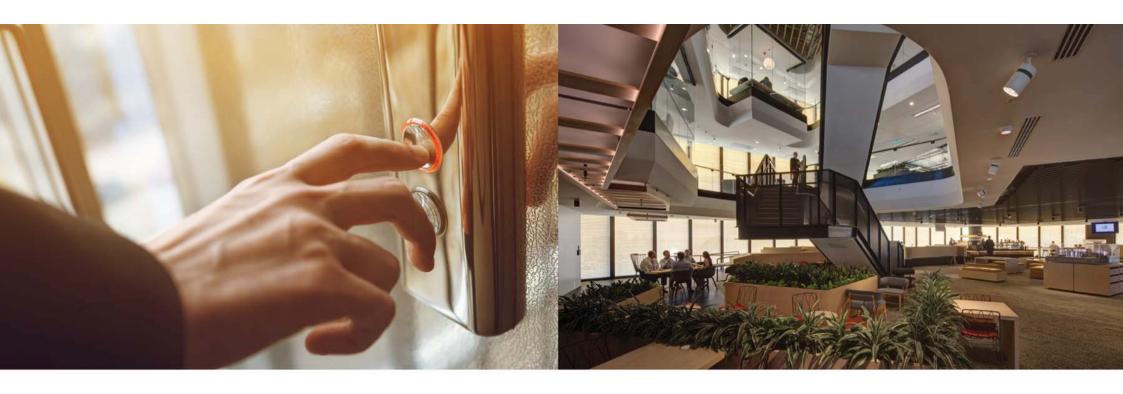
CHANGING WORK AND CULTURE.



CHANGING VIEWS.



CHANGING WHAT WE EAT AND HOW WE FEEL.

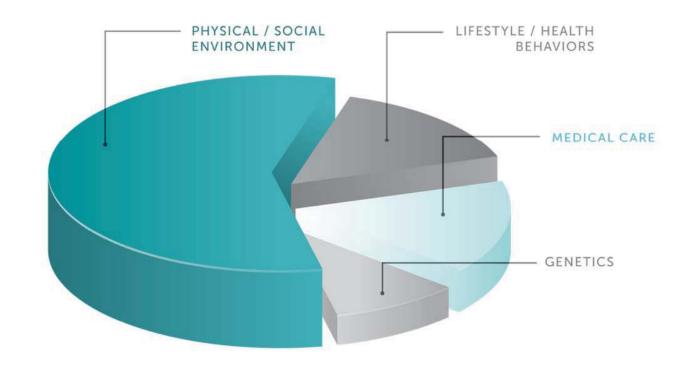


CHANGING HOW WE GET AROUND.



THE BUILDINGS WHERE WE LIVE, WORK, LEARN AND RELAX PROFOUNDLY IMPACT OUR HEALTH, WELL-BEING AND PRODUCTIVITY.

WHAT DETERMINES THE STATE OF HEALTH?



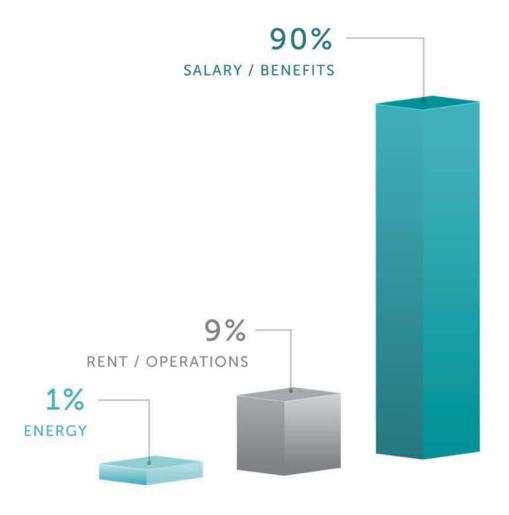
Source: Centers for Disease Control and Protection. Frequently Asked Questions. 2014. Available online at: http://www.cdc.gov/nchhstp/socialdeterminants/faq.html

THE ULTIMATE GOAL OF OUR BUILDINGS & COMMUNITIES:

TO CREATE A
POSITIVE
HUMAN
EXPERIENCE



INVEST IN PEOPLE FOR RETURN ON INVESTMENT



Source: Knoll Workplace Research "What's Good for People, Moving from Wellnes to Well Being", Kate Lister 2004 Studies include those conducted by organizations including Harvard Business Review and World Economic Forum and the American Journeal of Health Promotion Image courtesy of World Green Building Counsel Report "Health, Wellbeing & Productivity in Offices"

WELLNESS: THE NEXT TRILLION DOLLAR INDUSTRY

MCKINSEY & COMPANY

Realthy, wealthy, and (maybe) wise: The emerging trillion-dollar market for health and wellness. Putney Cloos, Sherina Ebrahim, Tracey Griffin, and Warren Teichner. Consumer and Market Insights, May, 2012. McKinsey and Co.

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BETTER BUILDINGS ARE WELL.



OUR STANDARD

The premier global standard for healthy buildings.



YOUR COMMUNITY

Join the movement with the WELL AP credential.



BETTER BUILDINGS

WELL positions building design and operations as agents of public health.

WELL measures, verifies and monitors building features that impact health and well-being.











THE TEAM BEHIND WELL

The International WELL Building
Institute (IWBI) is leading the global
movement to transform our
buildings and communities in ways
that help people thrive.



DEVELOPMENT OF WELL









2014

IWBI launches the WELL
Building StandardTM after a
six-year, expert peer review
process that spanned three
phases: scientist, practitioner
and medical.



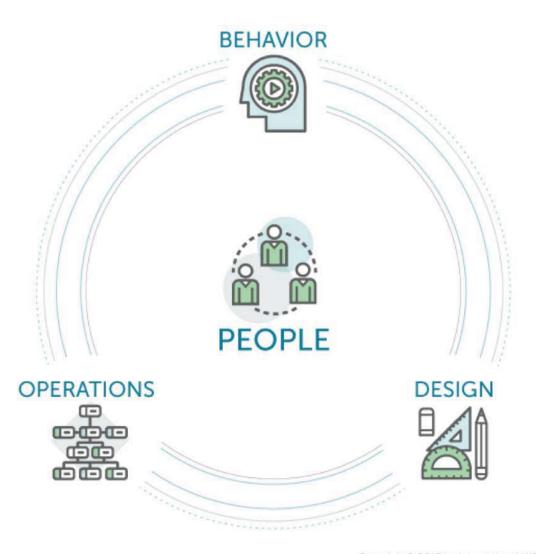
With the debut of the WELL
Community StandardTM pilot,
IWBI expanded its scope to set a
new global benchmark for
healthy communities at the
district-scale.

2018

Condensing learnings from WELL users, project outcomes and the latest research, IWBI rolls out the WELL v2TM pilot. The next version of WELL represents a new paradigm for supporting human health through better buildings.

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WELL IS HOLISTIC





HEALTH IS A STATE OF COMPLETE PHYSICAL,
MENTAL, AND SOCIAL WELL-BEING, AND NOT
MERELY THE ABSENCE OF DISEASE OR INFIRMITY.

THE WORLD HEALTH ORGANIZATION

A COMPREHENSIVE APPROACH TO WELL-BEING

The WELL Building Standard is made up of features that address ten concepts:





AIR

Experience high-level indoor air quality across a building's lifetime.

- Performance metrics
- Ventilation and operable windows
- Filtration
- Construction pollution management

- Source of concern protection
- Smoking ban
- Maintenance and operations
- Microbe and mold control



Concentrations of some pollution indicators can be 2-5 times higher indoors compared to outdoors.¹

Polluted air is the number one environmental cause of premature mortality, contributing to 200,000 premature deaths annually in the United States alone and approximately seven million, or one in eight, premature deaths globally.²

^{1.} Calazzo F, Ashok A, Waitz IA, Yim SHL, Barrett SRH. Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005. Atmospheric Environment. 2013;79:198-208

^{2.} World Health Organization. 7 million premature deaths annually linked to air pollution. 2014; http://www.who.int/mediacentre/news/releases/2014/air-pollution/en/. Accessed May 20, 2016..





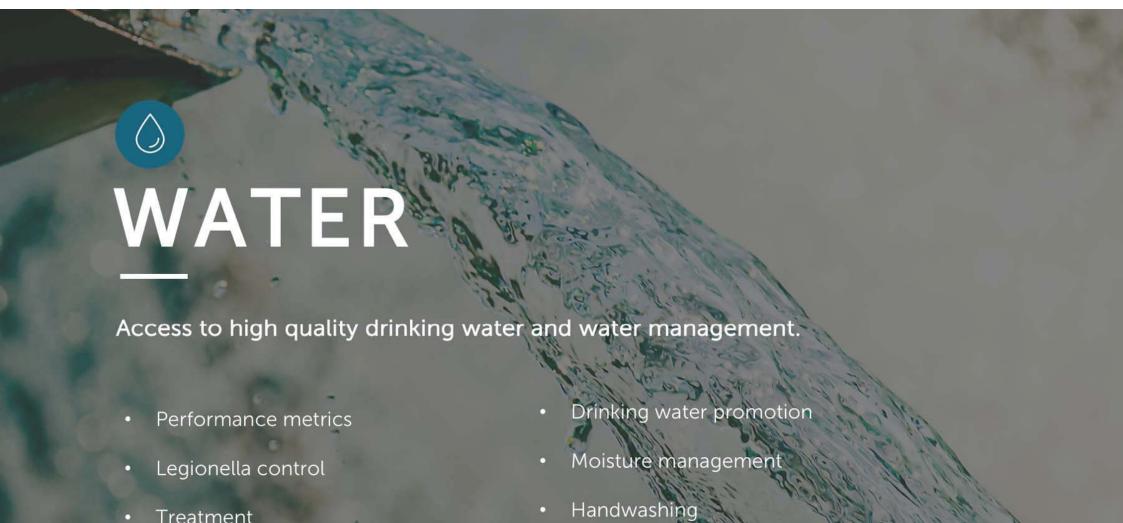
AIR: THE IMPACT

The World Health Organization estimates that 12.7% of deaths could be prevented by improving air quality globally.¹

Decreased air pollution could reduce the burden of respiratory and cardiovascular diseases, health-care costs, workforce productivity loss due to illness and increase life expectancy for local populations.²

^{1.} World Health Organization. Frequently Asked Questions; Ambient and Household Air Pollution and Health. Geneva, Switzerland: WHO Press; 2014.

^{2.} World Health Organization. Frequently Asked Questions: Ambient and Household Air Pollution and Health. Geneva, Switzerland: WHO Press; 2014.



Treatment



WATER: THE ISSUE

Being dehydrated by just 2% has been shown to impair cognitive performance.¹

The Institute of Medicine recommends that women consume at least 2.7 L [11 cups] and men consume at least 3.7 L [16 cups] of water from foods and beverages each day.²



^{1.} Cognitive performance and dehydration. J Am Coll Nutr. 2012;31(2):71-78

^{1.} Grandjean AC, Grandjean NR. Dehydration and cognitive performance. J Am Coll Nutr. 2007;26(5 Suppl):549s-554s

^{2.} Institute of Medicine of the National Academies. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. Washington, DC: The National Academies Press; 2005.



NOURISHMENT

Encourage better eating habits by creating food environments where the healthiest choice is the easiest choice.

- Fruits and vegetables
- Nutritional transparency
- Ingredient restrictions
- Portion management
- Accommodating special diets

- Food advertising and education
- Mindful eating spaces
- Food preparation guidelines
- Food production and sourcing





WATER: THE IMPACT

Research indicates that thirsty individuals who drink water prior to performing a mental task have faster reaction times than those who do not drink water.¹

^{1.} Edmonds C, Crombie R, Gardner M. Subjective thirst moderates changes in speed of responding associated with water consumption. Frontiers in Human Neuroscience, 2013;7(363).



NOURISHMENT: THE ISSUE

Over half of the world's adult population is overweight or obese.¹

Poor nutrition is a major contributor to preventable chronic diseases such as cardiovascular disease, diabetes and obesity.²



^{1.} World Health Organization. Obesity and overweight fact sheet. 2016. http://www.who.int/mediacentre/factsheets/fs311/en/ Accessed December 13, 2016.

World Health Organization. Diet, nutrition and the prevention of chronic diseases - Report of the joint WHO/FAO expert consultation. Geneva, Switzerland: World Health Organization; 2003





NOURISHMENT: THE IMPACT

Fruit and vegetable intake is associated with increased productivity and job performance.¹

Increased nutritional knowledge has been shown to promote healthy eating and especially fruit and vegetable intake.²

^{1.}Merrill RM, Aldana SG, Pope JE, et al. Self-rated job performance and absenteeism according to employee engagement, health behaviors, and physical health. JOEM 2013;55(1):10-18.

^{2.} Wardle J, Parmenter K, Waller J. Nutrition knowledge and food intake. Appetite. 2000. 34(3):269-75.



Benefit from daylight and lighting systems designed to increase alertness, enhance experience and promote sleep.

- Occupant controls
- Visual acuity
- Circadian lighting design
- Glare control

- Daylighting access
- Visual balance
- Light quality
- Light exposure and education



Disruption to the body's circadian rhythm are associated with chronic diseases including obesity, diabetes, and depression.¹

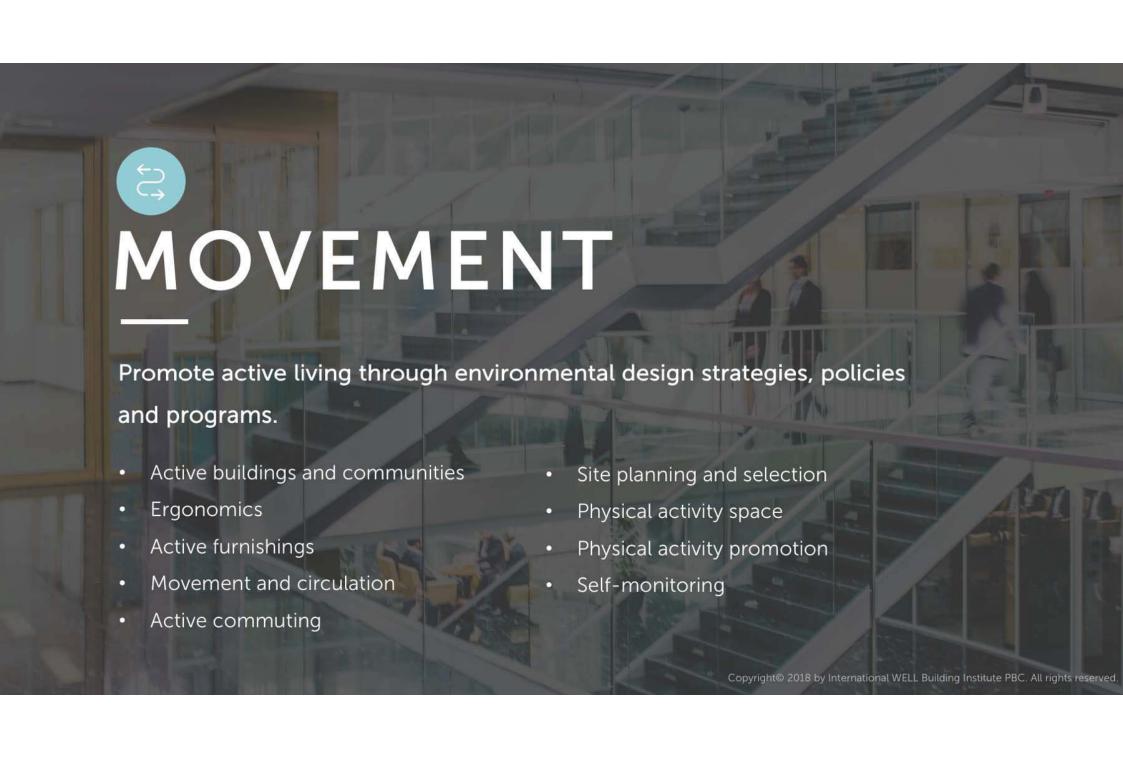
Institute PBC. All rights reserved.





Studies have found a relationship between proximity to windows and productivity, especially when windows offer an opportunity to connect with the outdoors.¹

1. Health, Wellbeing and Productivity in Offices. The next chapter for Greenbuilding, 2015. World Green Building Council.



MOVEMENT: THE ISSUE

Physical inactivity is highly prevalent worldwide, with 23% of adults failing to meet international exercise and physical activity guidelines established by the WHO.¹

Additionally, the WHO notes that individuals who are insufficiently active have a 20-30% higher risk of mortality compared to those who meet international recommendations.²

^{1.} Edmonds C, Crombie R, Gardner M. Subjective thirst moderates changes in speed of responding associated with water consumption. Frontiers in Human Neuroscience. 2013;7(363).

^{2.} World Health Organization. Physical Activity. 2015; http://www.who.int/mediacentre/factsheets/fs385/en/. Accessed June 10, 2016.

^{2.} Ding D, Lawson KD, Kolbe-Alexander TL, et al. The economic burden of physical inactivity: a global analysis of major non-communicable diseases. Lancet (London, England). 2016;388(10051):1311-1324.





MOVEMENT: THE IMPACT

Worldwide, if physical inactivity was reduced by 10% or 25%, over 533,000 and 1.3 million deaths, respectively, could be avoided every year.¹

 Lee IM, Shiroma EJ, Lobelo F, et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lancet (London, England). 2012;380(9838):219-229



THERMAL COMFORT

Maximize your productivity through improved HVAC system design and by meeting thermal preferences.

- Performance metrics
- Thermal zoning
- Individual controls

- Radiant thermal comfort
- · Ongoing monitoring
- Humidity control





THERMAL COMFORT: THE ISSUE

An office that is too hot or too cold can cause a drop in productivity of up to 9%.4

^{1.} Bhattacharya A. Costs of occupational musculoskeletal disorders (MSDs) in the United States. International Journal of Industrial Ergonomics. 2014;44(3):448-454.

Banbury S, Berry DC. Disruption of office-related tasks by speech and office noise. British Journal of Psychology. 1998;89(3):499-517.

Perham N, Banbury S, Jones DM. Do realistic reverberation levels reduce auditory distraction? Applied Cognitive Psychology. 2007;21(7):839-847.

^{4.} Olli S, William JF, Quanhong L-G. Effect of temperature on task performance in office environment. 5th International Conference on Cold Climate Heating, Ventilating and Air Conditioning. Moscow, Russia:2006.



THERMAL COMFORT: THE IMPACT

Maintaining optimal thermal comfort can maximize productivity and decrease typing errors.¹

^{1.} Perham N, Banbury S, Jones DM. Do realistic reverberation levels reduce auditory distraction? Applied Cognitive Psychology. 2007;21(7):839-847. An office that is too hot or too cold can cause a drop in productivity of up to 9%.

^{2.} Olli S, William JF, Quanhong L-G. Effect of temperature on task performance in office environment. 5th International Conference on Cold Climate Heating, Ventilating and Air Conditioning. Moscow, Russia:2006.



Support cognitive and emotional health through design, technology and treatment strategies.

- · Access to nature
- Focus support
- Sleep support
- Business travel

- Tobacco prevention and cessation
- Substance use education and service
- Opioid emergency response plan



Various environmental characteristics can have direct impacts on mental health and well-being, such as housing, crowding, noise, indoor air quality, and light.¹

Mental, neurological, and substance use disorders account for 14% of the global burden of disease and depression alone is the leading cause of disability worldwide.²

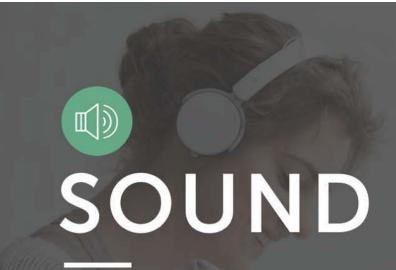
Poor mental health is linked to poor health outcomes such as cardiovascular disease, obesity, and diabetes and to poor health behaviors such as smoking, disordered sleep patterns, and physical inactivity.³





Individuals who feel a great sense of psychological support from their organization have greater attachment to the organization.¹

1. Canadian Centre for Occupational Health and Safety. Mental Health - Psychosocial Risk Factors in the Workplace. 2012; https://www.ccohs.ca/oshanswers/psychosocial/mentalhealth_risk.html. Accessed December 1, 2016.



Improve your experience with optimal acoustical comfort parameters.

- Performance metrics
- Mapping
- Barriers

- Absorption
- Masking



SOUND: THE ISSUE

Exposure to noise has been shown to hinder the health and well-being of people in a number of different ways.¹

In addition to airborne noise sources, impact noise from adjacent activity such as footfall, exercise or mechanical vibration can create uncomfortable environments for those in receiving locations.^{2,3}

People are generally dissatisfied when conversations can readily transmit between rooms or across an open office, thus hindering confidentiality or creating distraction from tasks.⁸

^{1.} Hänninen O, Knol AB, Jantunen M, et al. Environmental Burden of Disease in Europe: Assessing Nine Risk Factors in Six Countries. Environ Health Perspect. 2014;122(5):439-446. doi:10.1289/ehp.1206154

^{2.} The American Society of Heating Refrigerating and Air-Conditioning Engineers. Chapter 48. Noise and Vibration Control. ASHRAE Handb HVAC Appl. 2009;(1):1-28.

^{3.} Dudarewicz A, the Impact of Low Frequency Noise on Human Mental Performance. 2005;18(2):185-199.

^{4.} Cavanaugh WJ, Farrell WR, Hirtle PW, Watters BG. Speech Privacy in Buildings. 2011.



SOUND: THE IMPACT

When exposure to noise is reduced, people are less susceptible to distraction, overall stress and potential health risk.¹

The fortification of façade elements can ensure that exterior noise intrusion is subdued much to the benefit of personal comfort during work, study or sleep. ²⁻⁸

- 1. Evans GW, Johnson D. Stress and open-office noise. J Appl Psychol. 2000;85(5):779-783. doi:10.1037/0021-9010.85.5.779
- 2. Fyhri A, Aasvang GM. Noise, sleep and poor health: Modeling the relationship between road traffic noise and cardiovascular problems. Sci Total Environ. 2010;408(21):4935-4942. doi:10.1016/j.scitotenv.2010.06.057
- 3. Jarup L, Babisch W, Houthuijs D, et al. Hypertension and exposure to noise near airports: The HYENA study. Environ Health Perspect. 2008;116(3):329-333. doi:10.1289/ehp.10775
- 4. Anna L, Blangiardo M, Fortunato L, et al. Aircraft noise and cardiovascular disease near Heathrow airport in London: Small area study. BMJ. 2013;347(7928):9-12. doi:10.1136/bmj.f5432
- 5. Klatte M, Bergström K, Lachmann T. Does noise affect learning? A short review on noise effects on cognitive performance in children. Front Psychol. 2013;4(August):1-6. doi:10.3389/fpsyg.2013.00578
- 6. Trimmel K, Sch??tzer J, Trimmel M. Acoustic noise alters selective attention processes as indicated by direct current (DC) brain potential changes. Int J Environ Res Public Health. 2014;11(10):9938-9953. doi:10.3390/ijerph111009938
- 7. Kaltenbach M, Maschke C, Klinke R. Health consequences of aircraft noise. Dtsch Arztebl Int. 2008;105(31-32):548-556. doi:10.3238/arztebl.2008.0548
- 8. Solet J, Buxton O, Ellenbogen J, Wang W, Carballiera a. Validating Acoustic Guidelines for Healthcare Facilities: Evidence-based design meets Evidence-based medicine: The Sound Sleep Study. 2010:1-56. papers2://publication/uuid/C795CF4F-BD80-4B4F-B5B0-C3FAADD03030.
- 9. Goines L, Hagler L. Noise Pollution: A Modern Plague: Adverse Health Effects of Noise. South Med J. 2007;100(3):287-294.



MATERIALS

Reduce human exposure to hazardous building materials.

- Lead, Asbestos, PBC and Mercury safety
- · Outdoor structures
- Waste management
- · Site remediation
- Pesticide use

- Cleaning products and protocols
- VOC reduction
- Long-term emission control
- Enhanced material precautions
- Material transparency



MATERIALS: THE ISSUE

An estimated 95% of chemicals largely used in construction lack sufficient data on health impacts.¹

The global chemicals output grew by 84% between 2000 and 2010, with emerging economies accounting for 65% of the increase.²

Chemical production is estimated to increase at a rate three times greater than global population growth and is expected to double every 25 years.

¹ Pacheco-Torgal F, Jalali S, Fucic A. Toxicity of Building Materials. Sawston, Cambridge: Woodhead Publishing Limited; 2012.

^{2.} United Nations Environment Programme. Global Chemicals Outlook. United Nations Press; 2013.

^{3.} Wilson MP, Schwarzman MR. Toward a new U.S. chemicals policy: rebuilding the foundation to advance new science, green chemistry, and environmental health. Env Heal Perspect. 2009;117(8):1202-1209. doi:10.1289/ehp.0800404





MATERIALS: THE IMPACT

Low-hazard cleaning products, the use of effective cleaning equipment, and design guidelines that promote efficient cleaning practices also ensure good indoor air quality.¹

The application of Integrated Pest Management (IPM) and use of low-hazard pesticides, along with signage and notice of application, further works to protect health.²

¹ Pacheco-Torgal F, Jalali S, Fucic A. Toxicity of Building Materials. Sawston, Cambridge: Woodhead Publishing Limited; 2012.

^{2.} United Nations Environment Programme. Global Chemicals Outlook. United Nations Press; 2013.



COMMUNITY

Establish inclusive, integrated community through social equity, civic engagement and accessible design.

- Community immunity
- New parent and family support
- New mother support
- Civic engagement
- Organizational transparency

- Accessible and universal design
- Bathroom accommodations
- Emergency preparedness
- Community access and engagement



COMMUNITY: THE ISSUE

The global, national and local conditions that surround an individual are known as the social determinants of health, which include physical determinants, or the physical and built conditions that impact the health of an individual.^{1,2}

Many people around the world still struggle with access to basic health services, and access varies based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity and residential location.³

^{1.} World Health Organization. About social determinants of health. WHO. http://www.who.int/social_determinants/sdh_definition/en/. Published 2017.

^{2.} U.S. Department of Health and Human Services. Social Determinants of Health. https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health. Accessed January 16, 2018.

1. U.S. Department of Health and Human Services. Access to Health Services. Healthy People 2020. https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services. Accessed February 4, 2018.



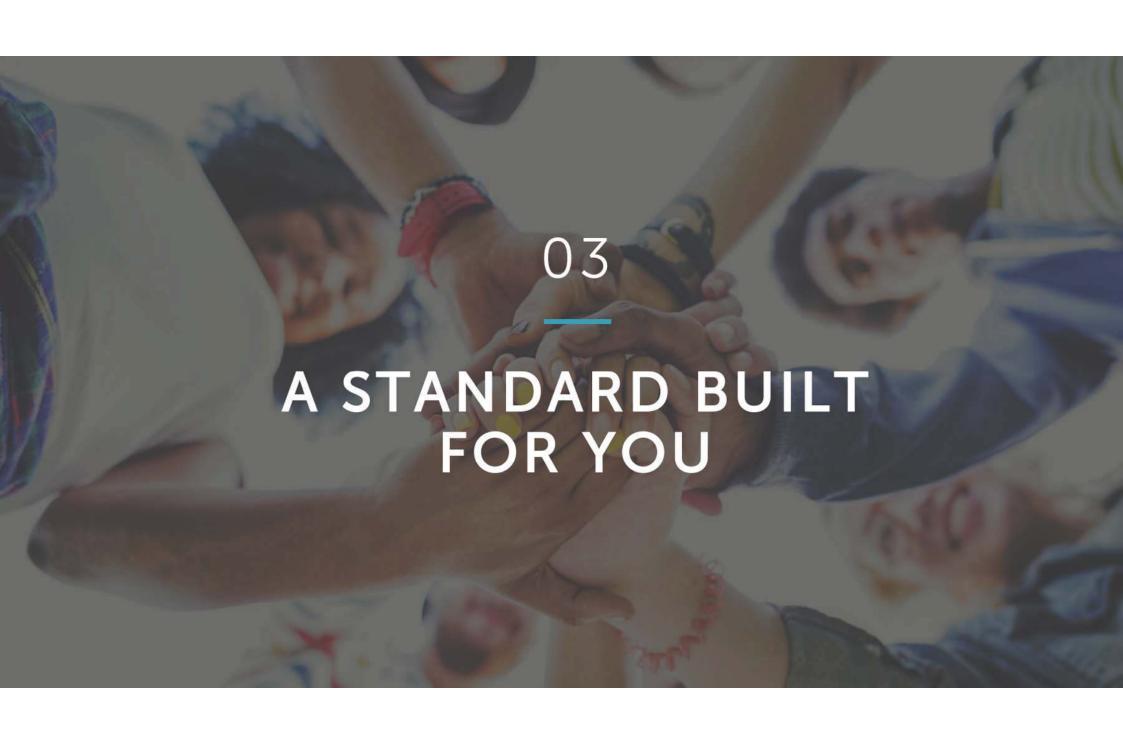


COMMUNITY: THE IMPACT

Designing built spaces in a way that enables all individuals to access, participate and thrive within the systems and structures of each community is essential to shaping individual and collective health outcomes.

Workplaces have the potential to promote health and encourage healthy behaviors through policies and programs.¹

^{1.} Garrin JM. The Power of Workplace Wellness: A Theoretical Model for Social Change Agency. J Soc Chang. 2014;6(1):109-117. doi:10.5590/JOSC.2014.06.1.08.



PRODUCTS







THE WELL v2™ PILOT

The second version of WELL represents a new paradigm for supporting and advancing human health through better buildings.

GUIDING PRINCIPLES OF WELL V2



WELL is global

Focus on localized perspectives / Applicable everywhere



WELL is customizable

For every project / Increased flexibility



Strengthened strategies / Verified performance













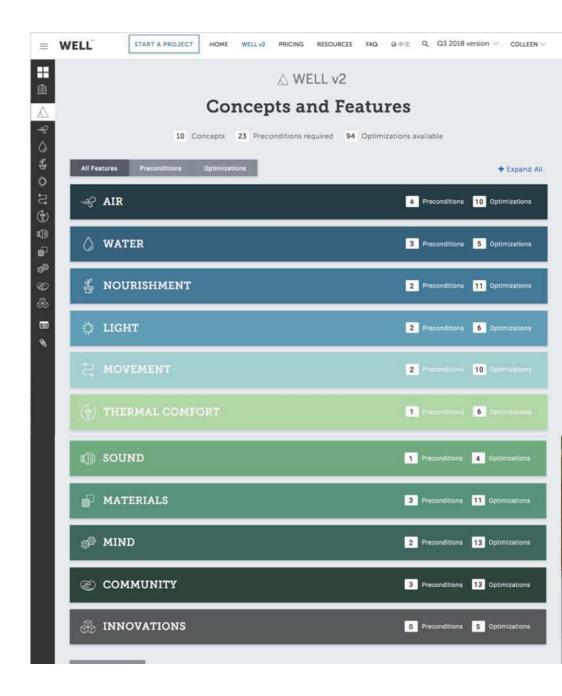


ONE WELL

WELL v2 is designed to work with all types of building projects.

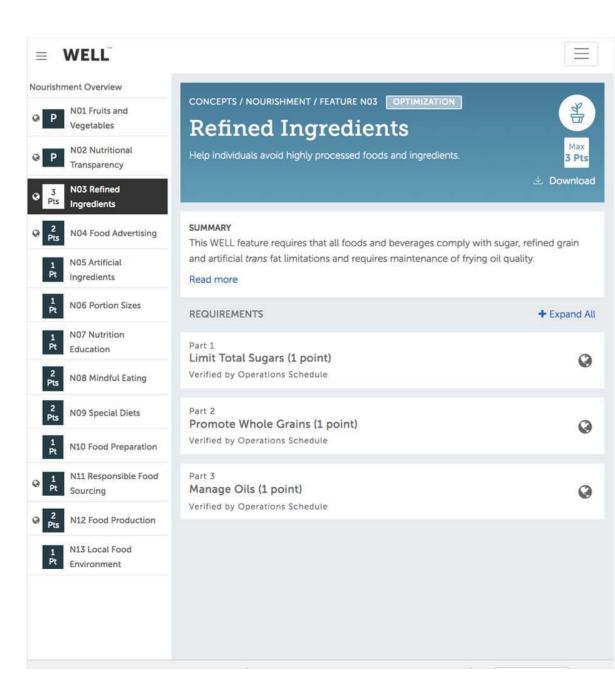
DYNAMIC SCORECARD

- Leverage the WELL v2 digital platform to create a custom scorecard.
- Enter your project details and browse a selection of suggested features tailored to help you achieve your project's unique goals.



FLEXIBILITY FOR YOUR NEEDS

After meeting required preconditions in WELL, select from optional optimization features to advance the healthy building elements that are most important to you.



ALTERNATIVE ADHERENCE PATHS

Alternative adherence paths enable you to apply new, novel and creative ways of achieving WELL features.



VERIFIED PERFORMANCE

WELL prioritizes accountability through a data-driven performance review and on-site environmental assessment.

ONSITE TESTING

+

PERFORMANCE REVIEW

=

PERFORMANCE VERIFICATION



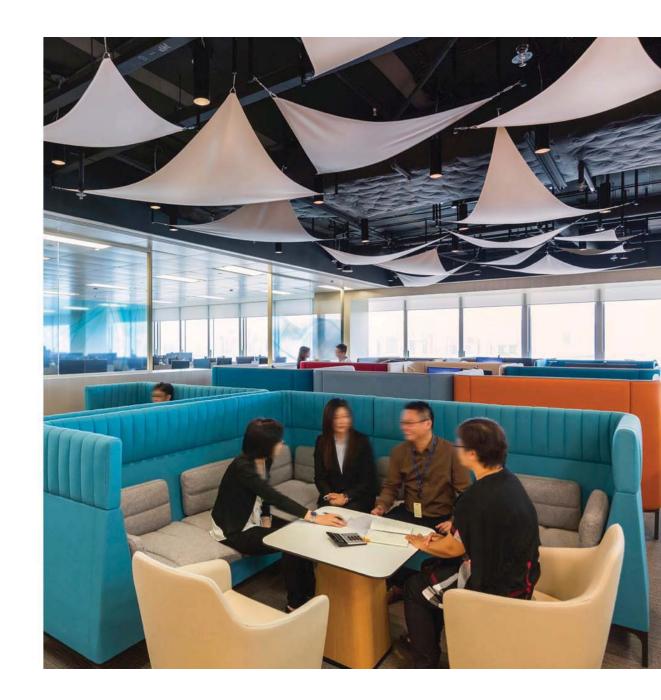
DEDICATED SUPPORT STRUCTURE



Your WELL team is matched to you after you register your project – and provides strategic oversight and support throughout the WELL Certification process.

EARLY PHASE REVIEW

Project teams may opt to submit documentation to Green Business
Certification Inc. (GBCI), the third party that administers WELL
Certification, ahead of performance verification to receive a new WELL
Design & OperationsTM designation.



SILVER, GOLD OR PLATINUM







WELL CORE

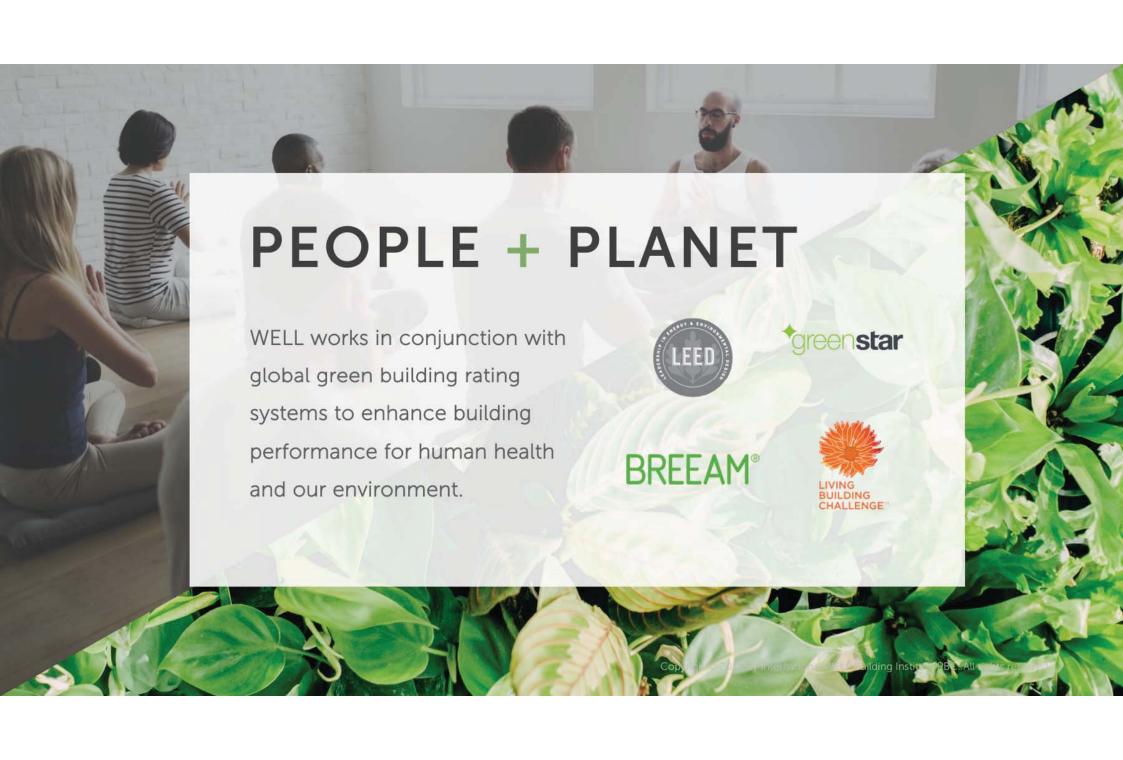
RECOGNIZING BASE BUILDINGS

 A distinct pathway of achievement for core and shell buildings designed to motivate tenants toward WELL Certification.



WELL CORE: POINTS-BASED SCORING

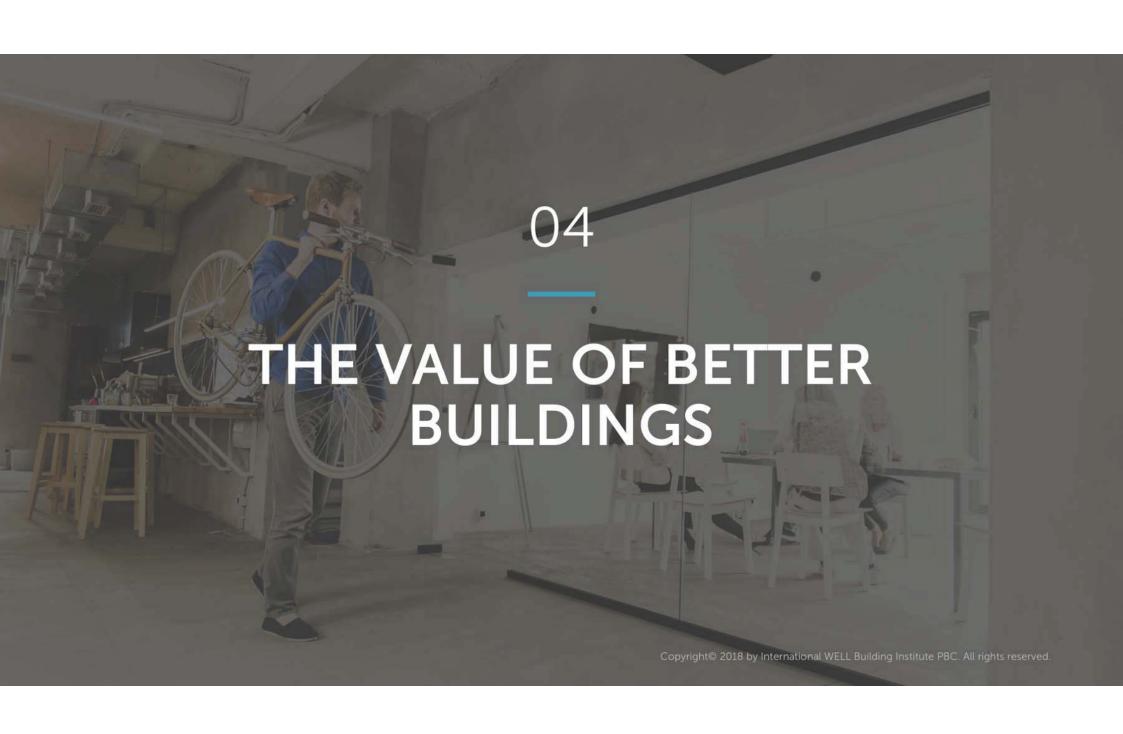




THE WELL COMMUNITY STANDARD MARD PILOT

The premier global standard for supporting health and well-being through inclusive, integrated and resilient communities.





DEMAND FOR WELL

Design for Healthy Behaviors is ranked #1 as both most transformative and fastest-moving sub-trend of the Health & Wellbeing macro trend.¹

There are growing reports of WELL Certification being specified in requests for proposals.²

ASID 2015 OUTLOOK

DELOITTE, 2016

^{1.} American Society of Interior Designers. Interior Design 2015-2016 Outlook and State of the Industry. Washington, DC; October 2016

^{2.} Deloitte Consulting LLP and Bersin by Deloitte. Workplace Pulse Survey. December 2016.

OWNERS VIEW THESE AS THE TOP BENEFITS OF HEALTHY BUILDINGS:





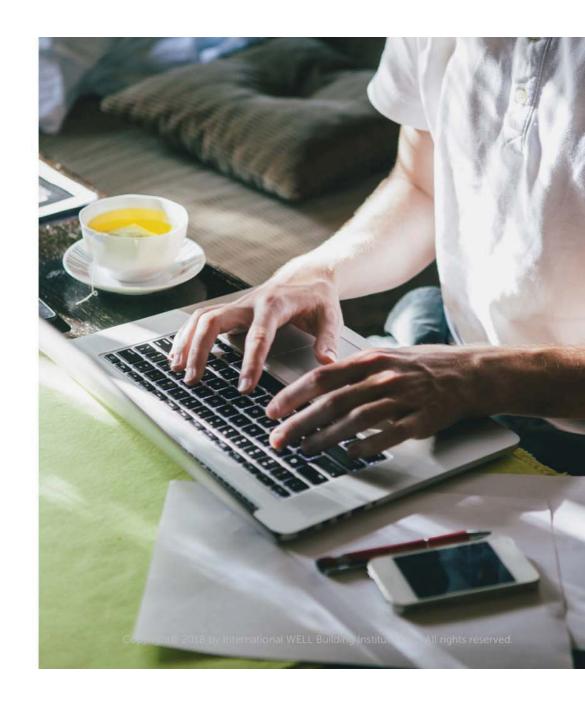


WELL AT WORK

50% of U.S. employers with 50 or more employees, or 3/4 of the workforce, offer wellness promotion initiatives.¹

49% of U.S.-based companies say health and productivity program are essential to their company strategy.²

"Within the next 3-5 years, we can expect 99% of employers to offer health improvement and wellness programs.³



^{1.} Workplace Wellness Programs Study, 2013 Randy Corporation

^{2.} The Business Value of a Healthy Workplace. Staying@WorkTM Survey Report. 2013/2014. Towers Watson.

^{3.} Aon Hewitt 2013. Healthy Case Survey Aon plc.

WELL AT WORK



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Average participation in corporate wellness offerings

Participation in a WELL Certified space



WELL AT WORK: Benefits

FOR EMPLOYEES AND CLIENTS:

- Health-focused environment
- Increased productivity
- Improved satisfaction and happiness at work

FOR COMPANY:

- Attract and retrain top talent, clients and investors
- Promote health to 100% of employees through WELL features
- Return on investment
- Lead the industry

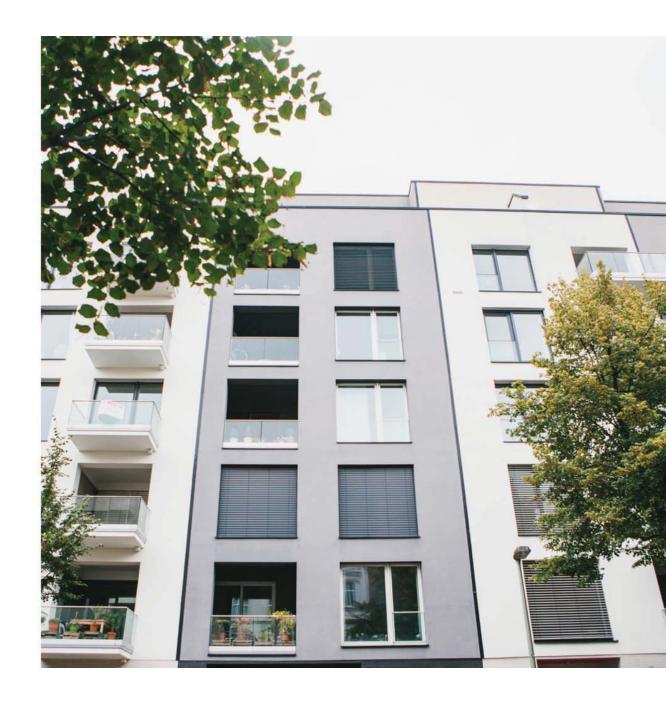
LIVING WELL: MULTIFAMILY RESIDENTIAL

FOR RESIDENTS

- · Health-focused environment
- · Positive impact on health
- · Improved energy and quality of sleep

FOR PROPERTY

- Recognition and market differentiation
- · Increase in value





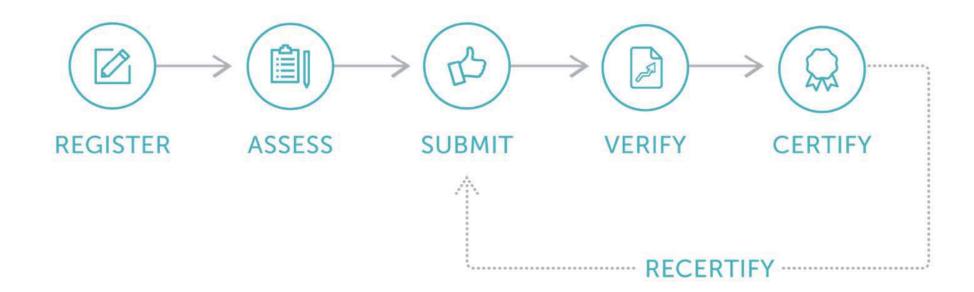
START YOUR PROJECT

Register your project to leverage WELL's flexible framework for improving human experience in buildings and communities across the world.

V2.WELLCERTIFIED.COM



BEGIN YOUR JOURNEY TO WELL CERTIFICATION







JOIN THE MOVEMENT

The WELL Accredited Professional (WELL AP) credential denotes expertise in the WELL Building StandardTM and a commitment to advancing human health and wellness in buildings and communities.

- Grow your knowledge
- Advance your career
- Maintain leadership

YOUR PATHWAY TO BECOMING A WELL AP





EDUCATION FOR ALL.

ON THE GROUND - AND ONLINE.

WELLCERTIFIED.COM/EDUCATION

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