



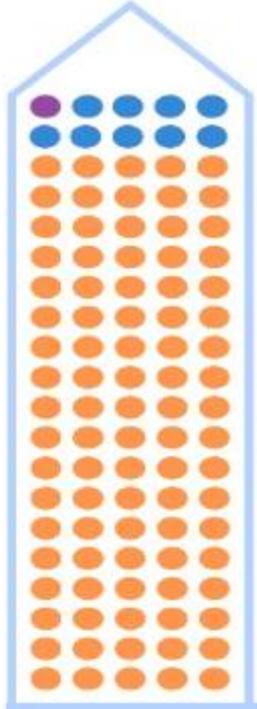
CBRE

HUMAN SUSTAINABILITY

Health & wellbeing

29 NOVEMBER 2019

ANNUAL COSTS



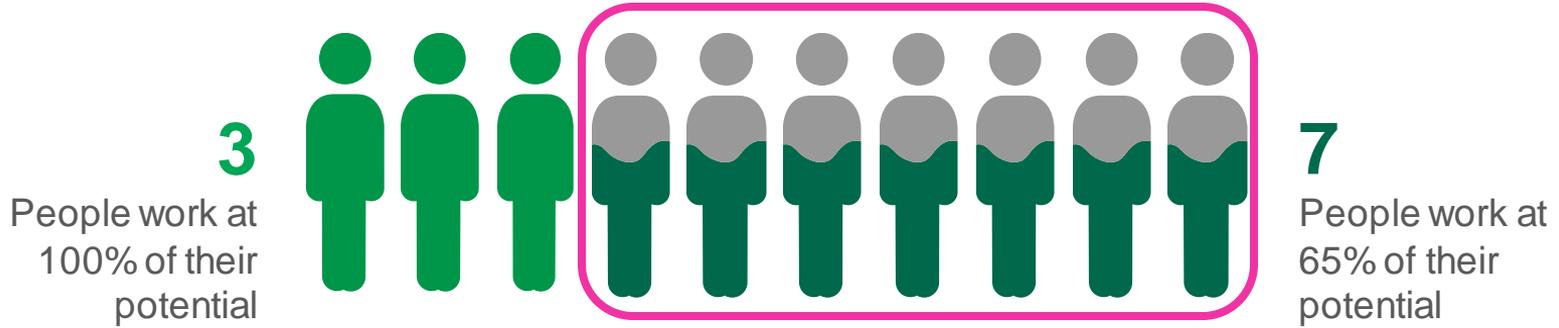
Energy: 1% Annual Cost

Rent | Operations: 9% Annual Cost

Salary | Benefits: 90% Annual Cost

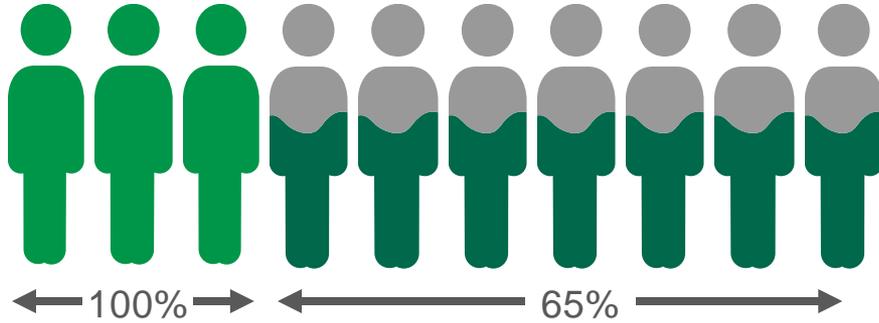
including Harvard Business Review, World Economic Forum and the American Journal of Health Promotion,
Image courtesy of World Green Building Council Report "Health, Wellbeing & Productivity in Offices"

HEALTHY OFFICES

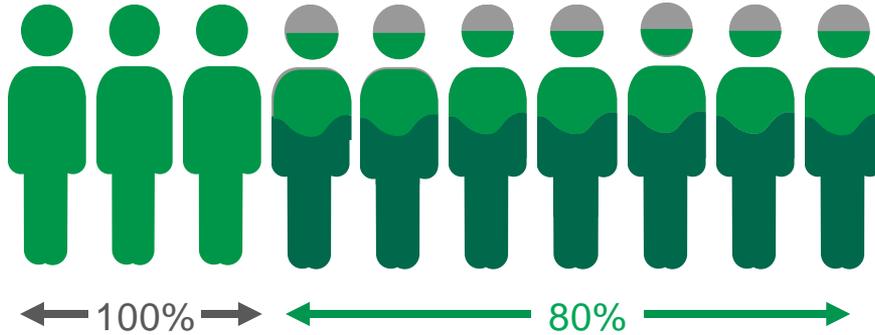


A company of 10 employees

HEALTHY OFFICES



75%



86%

HEALTHY BUILDINGS



2013
243 Certified projects
3653 Registered projects



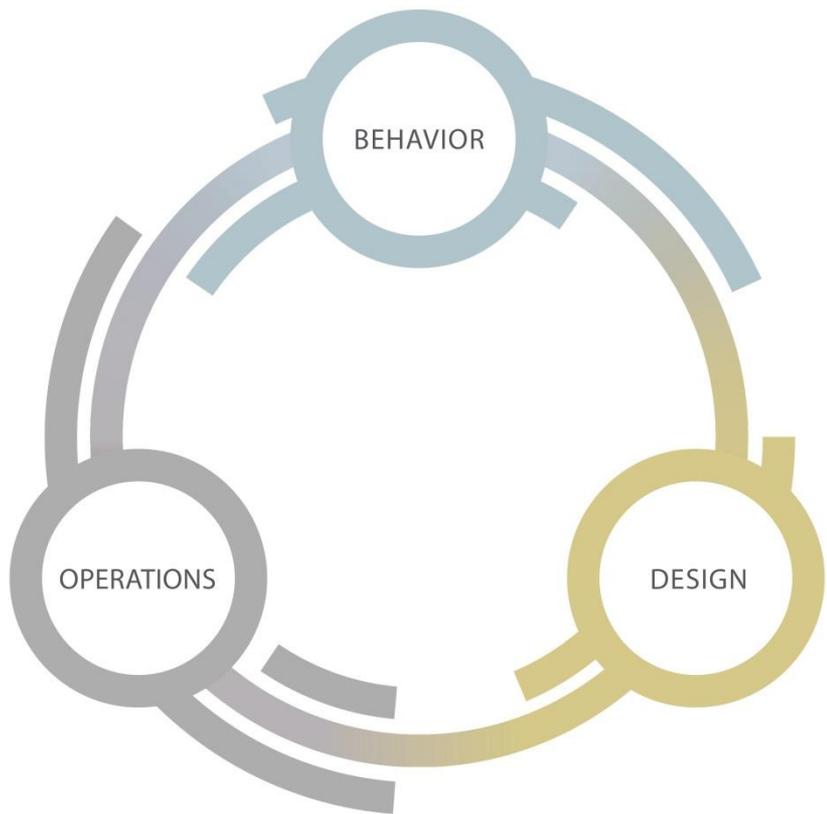
2017
340 Certified projects
940 Registered projects



2013
59 participating projects



INTERNATIONAL
WELL
BUILDING
INSTITUTE



COMPREHENSIVE APPROACH TO HEALTHY ENVIRONMENTS

WELL is a comprehensive approach to human health while addressing the elements of the built environment through the **seven concepts** of the WELL Building Standard and through features focused on: **Behavior, Design and Operations.**

TEN CONCEPTS



AIR



WATER



NOURISHMENT



LIGHT



MOVEMENT



THERMAL
COMFORT



SOUND



MATERIALS

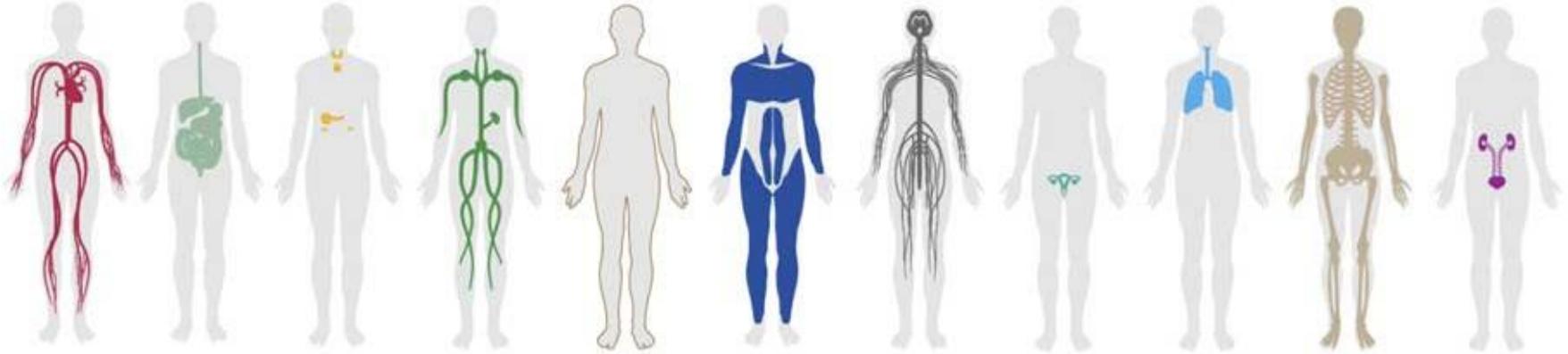


MIND



COMMUNITY

WELL V1 SYSTEMS



1. Cardiovascular
2. Digestive
3. Endocrine

4. Immune
5. Integumentary
6. Muscular
7. Nervous

8. Reproductive
9. Respiratory
10. Skeletal
11. Urinary

WELL V1 CERTIFICATION



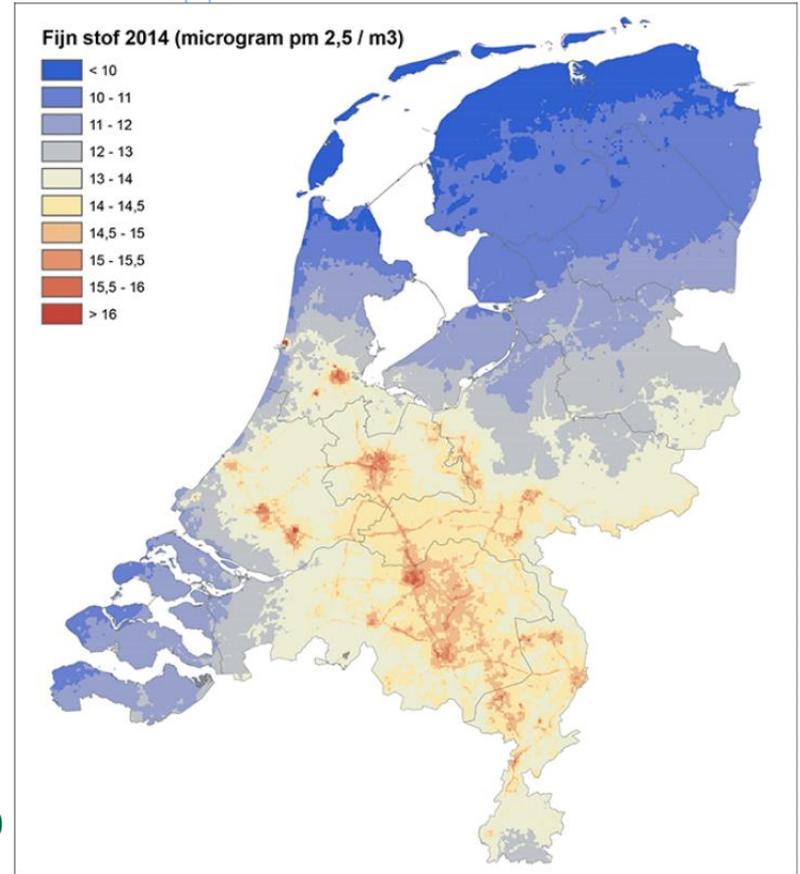
WELL V2 AIR

Annual Average Outdoor PM _{2.5} Threshold	Minimum Air Filtration Level
16 µg/m ³ or less	MERV 8 or G4
17–18 µg/m ³	MERV 10 or M5
19–23 µg/m ³	MERV 12 or M6
24–39 µg/m ³	MERV 14 or F8
40–59 µg/m ³	MERV 16 or E10
60 µg/m ³ or greater	MERV 16 preceded by MERV 8, or E10 preceded by G4

Yearly testing

Compliance with EN 15251:2007

Proceed ait supply rates described in ASHRAE 62.1-2010



WELL V2 LIGHT



Light levels
Colour temperature
Glare control
Visual balance
EN 12464-1: 2011

WELL V2 SOUND



Sound absorption
Sound masking
Maximum noise levels
Loud and quiet area's
Reverberation Time
ISO 717.2



CBRE HEALTHY OFFICES RESEARCH

 NATURAL SPACE	+10%	+10%	78%	65%
 RIGHT LIGHTING	+18%	+12%	76%	50%
 HEALTHY NUTRITION	+20%	+45%	66%	52%
 MENTAL BALANCE	+16%	+30%	63%	53%
 PHYSICAL EXERCISE	+11%	+12%	36%	71%

Perceived Improved Productivity

Actual Improved Productivity

Improved Happiness at Work

Felt Healthier

HEALTHY OFFICES RESEARCH

MIND → GREEN



HEALTHY OFFICES RESEARCH

MIND → GREEN



CBRE study

Increased levels of motivation
from baseline

OUTCOME

8% Increased work productivity

HEALTHY OFFICES RESEARCH

MIND → GREEN



HEALTHY OFFICES RESEARCH

LIGHT



HEALTHY OFFICES RESEARCH

LIGHT



CBRE study

Doubled the lighting in healthy areas
& put office for an alert staff with a healthy
circadian rhythm

OUTCOME

12% Increase accuracy
10% Difference in productivity

HEALTHY OFFICES RESEARCH

LIGHT



The background is an abstract composition of various shades of green, ranging from dark forest green to bright lime green. It features a complex pattern of overlapping, semi-transparent geometric shapes, primarily triangles and polygons, which create a sense of depth and movement. The lines between these shapes are thin and dark, contrasting with the lighter green areas.

CBRE

THANK YOU

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