The Business case for Healthy Buildings

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Health and Wellness is the next Trillion Dollar Industry

MCKINSEY
EIGHT FEATURES THAT MAKE HEALTHIER AND GREENER OFFICES

1. INDOOR AIR QUALITY & VENTILATION
Healthy offices have low concentrations of CO₂, VOCs (volatile organic compounds) and other pollutants, as well as high ventilation rates.

WHY? 101%
Increase in cognitive scores for workers in a green, well-ventilated office.

2. THERMAL COMFORT
Healthy offices have a comfortable temperature range which staff can control.

WHY? 6%
Fall in staff performance when offices are too hot and 4% if too cold.

3. DAYLIGHTING & LIGHTING
Healthy offices have generous access to daylight and self-controlled electrical lighting.

WHY? 46 minutes
More sleep for workers in offices near windows.

4. NOISE & ACOUSTICS
Healthy offices use materials that reduce noise and provide quiet spaces to work.

WHY? 66%
Fall in staff performance as a result of distracting noises.

5. INTERIOR LAYOUT & ACTIVE DESIGN
Healthy offices have a diverse array of workspaces, with ample meeting rooms, quiet zones, and stand-alone desks, promoting active movement within offices.

WHY? 7-12%
Improvement in processing time at one call centre when staff have a view of nature.

6. BIOPHILIA & VIEWS
Healthy offices have a wide variety of plant species inside and out as well as views of nature from workspaces.

WHY? Visual appeal is a major factor in workplace satisfaction.

7. LOOK & FEEL
Healthy offices have colours, textures, and materials that are welcoming, calming and evoke nature.

WHY? €27m
Saving through cutting absenteeism as a result of Dutch cycle-to-work scheme.

8. LOCATION & ACCESS TO AMENITIES
Healthy offices have access to public transport, safe bike routes, parking and showers, and a range of health food choices.
What makes a “healthy building” and a “healthy place?”

Evidence-Based Recommendations

1. Incorporate a mix of land uses
2. Design well-connected street networks at the human scale
3. Provide sidewalks and enticing, pedestrian-oriented streetscapes
4. Provide infrastructure to support biking
5. Design visible, enticing stairs to encourage everyday use
6. Install stair prompts and signage
7. Provide high-quality spaces for multigenerational play and recreation
8. Build play spaces for children
9. Accommodate a grocery store
10. Host a farmers market
11. Promote healthy food retail
12. Support on-site gardening and farming
13. Enhance access to drinking water
14. Ban smoking
15. Use materials and products that support healthy indoor air quality
16. Facilitate proper ventilation and airflow
17. Maximize indoor lighting quality
18. Minimize noise pollution
19. Increase access to nature
20. Facilitate social engagement
21. Adopt pet-friendly policies
What’s the business case for healthy buildings?
INVEST IN PEOPLE FOR RETURN ON INVESTMENT


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101% improvement in cognitive scores in a low VOC, well-ventilated office

Occupants of green-certified, high-performing buildings saw 26 percent higher cognitive function scores, slept better and reported fewer health symptoms compared to those in similarly high-performing buildings that were not green-certified.
7-12% increase in call center productivity for employees with a view of nature

97% increase in sales-generated leads and 101% increase in leads per call in new green, healthy office.
3.5 fewer sick days per employee in their new healthy office
The business case for healthy buildings

✓ **Tenants**: attract talent, reduce absenteeism, reduce turnover, increase productivity.

✓ **Designers**: more interesting projects, more revenue, market differentiation.

✓ **Service providers**: a new standard to certify to, provide technology for, and help clients navigate.

✓ **Society**: healthier workers reduce the social cost of health care, and indirectly lead to more tax revenue (live longer, work longer, act as productive members of society.)
Healthy building certification – small but growing
DEVELOPERS...

What’s MY business case for healthy buildings?
OK, so where is the business case for developers?

1. More rent? Lower vacancy rates?
2. Higher development yield?
3. Economic incentives for a certified building? (density, tax abatement, faster permitting?)
4. Can I even achieve the certification?
5. How much will it cost?
6. Will the market reward me for my investment?

*Right now, the answer to all of these questions is “maybe”, “not sure”, and “we hope so”...*
So why should I do this?

- **Market differentiation** – be a leader in a growing tenant trend.

- **Avoid future obsolescence** – “healthy-ready” buildings can avoid costly future retrofits, if healthy becomes standard for “good”

- **Like “green”, “healthy” can be synonymous with “well managed”,** which helps reduce operating expenses and maintenance issues (which contributes to NOI).

- **There IS a strong business case for tenants** to pay more in rent for a healthy building

- **Lower capital costs and more access to capital?** New debt products may incentivize healthy homes, and institutional investors may start showing preference for healthy offices and other assets.
Building the business case for healthy buildings

- Case studies and profiles from CBRE, Arup, Genentech, Kilroy, Tower, and others on how a healthy-certified building is helping reduce operating expenses, boost revenue, and improve tenant satisfaction.
- New research supporting the business case for healthy-certified buildings.
- A market update on WELL and Fitwel – their market penetration and expanding certification programs.
From Healthy Buildings to Healthy Communities
DISCUSSION: BUSINESS CASE FOR WELLNESS

Are you buying this business case? What do you think about healthy buildings and your markets?

What is needed to drive healthy buildings at scale?

What do you see as current barriers to market adoption, and what can ULI do to address them?
Part 2

Building a business case for zero net energy
Why “Zero net energy”?

- Energy expenses continue to rise
- The cost of building components to achieve NZE continues to fall
- More countries and regions moving towards ZNE over time (as code!)
- More RE capital looking for the most sustainable property investments, and NZE is the most “future-proofed”.
- New financial tools to sweeten the business case, including off balance-sheet financing, and innovative ZNE leasing.
Next-gen materials and technology making ZNE possible

- **New materials:** Structural insulated panels, cross-laminated timber, R-5+ windows
- **New energy management tools:** microsensors, AI-assisted BIM/BMS, energy storage, advanced controls
- **New on-site renewable options** (solar pavers, curtainwall, films, and roof-integrated PV)
Example 1 – new construction, class A commercial spec office building

- Super tight building envelope
- Mechanical equipment sized for energy efficient tenants
- Plug load “diet”?
- Advanced building controls
- Leveraging all cost-effective renewables available (solar, wind, geothermal, sewer gas?)
- Working with tenant/future owner to price in value of $0 in energy costs

- 7% premium in construction cost ($18/SF)
- $2/SF/yr rent premium, reduced non-recoverable OPEX generates 18%IRR
- Future-proofing? NZE Required for NC in CA by 2020/2030, will soon be in Seattle, NYC, and DC.
Example 2 – 82,408 SF Manufacturing Building, gut rehab

1) Reduce EUI
- LED Lights
- Optimized HVAC Tune-Up
- Insulation
- Window Film
- Reflective Insulated Roof

2) Generation
- Rooftop Solar
- Parking lot Canopies
- 1.02 MW System
- Generates > 1.6 MM kWh/yr.
Economic Results

ROI for the Building Owner:
- Total Investment Cost: $3,332,988
- Less tax Incentives $1,366,535
- Net Cost after Year 1: $1,966,453
- Annual Utility Savings: $421,000
- Return on Net Cost: 21.4%
- Simple payback (years): 4.67
- Increased Building Value: $6,415,385

Benefits to Manufacturing Tenant:
- Cost of Power set at $0 for next 20 years
- Competitive advantage when pricing L-T contracts
- Increased Profits (lower future power costs)
- Reduced maintenance costs (roof, lights, HVAC)

Benefits to the Environment:
- Offsets the burning of over 95 Million Gallons of Gasoline over a 20 year period.
Zero over time – for a district, or a building portfolio?

Existing buildings
- Baseline, Benchmark, set goals
- Low/no cost improvement: facility management and tenant engagement
- Quick payback investments (lighting, lighting controls, insulation, metering for efficiency?)
- Long-term high-ROI opportunities – roof, mechanical systems, on-site renewables and storage?
- Have to overcome split incentives – owner/tenant, owner/property manager, owner/investor.

For a district?
- Renewable and low-carbon power
- Shared renewable resources from distributed generation
- Customized incentives for efficiency, demand management, and renewables
Q&A
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