



# HEALTHY BUILDINGS: COMMERCIAL OFFICES

The COVID-19 pandemic presents significant challenges for commercial buildings, as owners and operators look to protect occupants, control infection and enable the safe reopening of businesses. As we look to move forward, these challenges are increasing the focus on healthy building strategies for design, retrofit and operation, and shifting the view of commercial buildings beyond places to work and into powerful tools that drive human health and progress.

## COMMERCIAL BUILDING PRIORITIES



## THE SCIENCE OF HEALTHY COMMERCIAL BUILDINGS

While the current urgency around healthy indoor environments in commercial buildings revolves largely around stopping the spread of COVID-19, research has shown the potential impact of healthy environments to be much greater. Through the COGfx Study, research has shown that healthy buildings can significantly improve cognitive function, while the HEALTHfx Study revealed the benefits of healthy buildings on societal health and climate. All in all, we're seeing that healthy buildings can impact the bottom line for a business – from reducing energy waste and the related costs to increasing worker productivity.



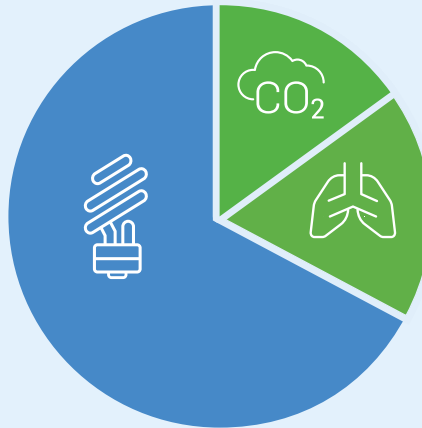
## A HEALTHY HEADQUARTERS

At Carrier, creating healthier, smarter, more efficient indoor environments is a part of who we are. It's why the Center for Intelligent Buildings – our global headquarters – was designed to put healthy building expertise into practice and serve as a living example of what's possible.

COMPARED TO BUSINESS AS USUAL,  
THE CENTER FOR INTELLIGENT  
BUILDINGS HAS SAVED

**\$172,000**


**IN ENERGY COSTS**  
over ASHRAE standard




PLUS AN ADDITIONAL

**\$83,000**

**IN COMBINED HEALTH AND  
CLIMATE BENEFITS:**

 **\$38,000**

FROM AVERTING NEGATIVE IMPACTS OF CLIMATE CHANGE

 **\$45,000**

FROM REDUCTIONS IN AIR POLLUTION RESULTING IN  
FEWER DEATHS, HOSPITAL VISITS, LOST DAYS OF WORK  
AND SCHOOL, AND MORE

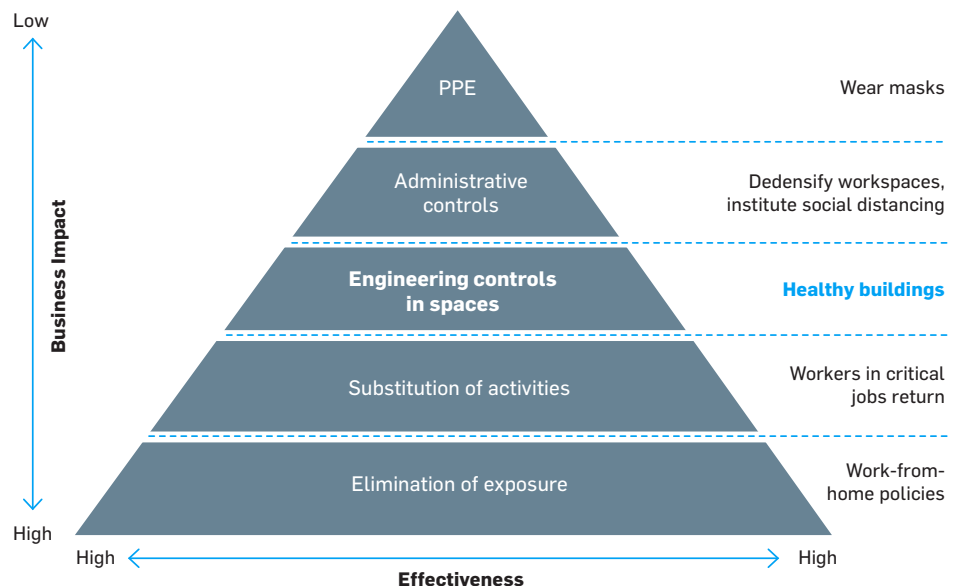
FOR A TOTAL BENEFIT OF **\$255,000** EACH YEAR

Allen, Joseph, and John D. Macomber. *Healthy Buildings: How Indoor Spaces Drive Performance and Productivity*. Cambridge, MA: Harvard University Press, 2020.

## THE ROLE OF HEALTHY BUILDINGS IN REOPENING

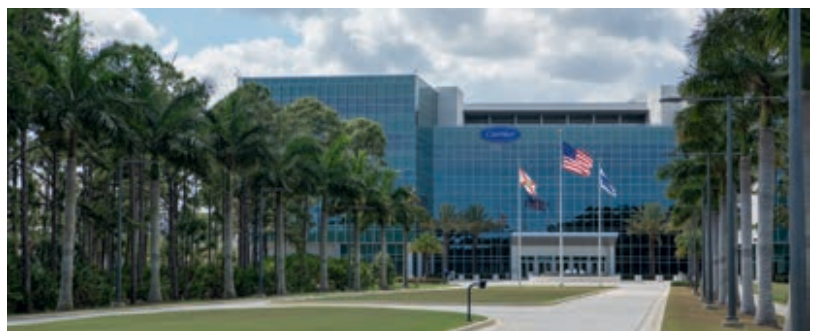
Creating a healthy building through engineering controls in spaces is a key component of combating COVID-19. It's a strategy that balances overall effectiveness with the financial impact it can have on the business.

Allen, J. G., & Macomber, J. D. (2020, April). What Makes an Office Building "Healthy." *Harvard Business Review*



## CARRIER HEALTHY BUILDINGS PROGRAM

As the inventors of modern air conditioning and a world leader in HVAC, refrigeration, and fire and security solutions, Carrier has a legacy of creating safe and comfortable buildings. Now we're building on that legacy through the launch of our Healthy Buildings Program. Our experts have in-depth knowledge and experience in commercial buildings and a holistic suite of healthy building technologies and services to address the immediate pandemic concerns and long into the future.



Carrier's Center for Intelligent Buildings is located in Jupiter, Florida, USA.

## HEALTHY BUILDINGS ASSESSMENTS FOR COMMERCIAL BUILDINGS

At Carrier, we understand that many of our commercial building customers are facing uncertainty with how to move forward in developing a healthy building strategy. Our experts are here to help – starting with assessments across various aspects of a building.



### SAFE START SERVICES

Ensure building is ready for occupancy

Rigorous recommissioning of HVAC equipment

Implement best practices (possibly remotely)



### EMERGENCY ASSETS

HVAC equipment on demand to reopen quickly and safely

Detailed site evaluations

Ensure system is able to meet your new ventilation and IAQ requirements



### IAQ ASSESSMENT

Test air quality

Develop and implement upgrades for optimal filtration, ventilation, airflow, controls, etc.

Develop corporate-wide IAQ engineering standards



### WELLNESS ASSESSMENT

WELL building standard certification

WELL performance testing



### SECURITY ASSESSMENT

Provide security solutions and upgrades

Contactless access management, body temp screening and video analytics

Remote monitoring and diagnostics

## HEALTHY BUILDINGS SOLUTIONS FOR COMMERCIAL BUILDINGS

Carrier offers a full suite of products and services designed to help create safe and healthy environments for commercial building occupants. The following are just a few highlights of our offering.

### ADVANCED AIRSIDE SYSTEMS



FRESH AIR MANAGEMENT  
ENERGY MONITORING  
CO<sub>2</sub> LEVEL CONTROL

### AIR HANDLING UNITS



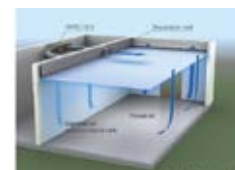
FRESH AIR MANAGEMENT  
HEPA FILTERS / CARBON FILTERS  
UV LIGHTS / BIPOLAR IONIZATION

### ROOFTOPS



CARBON FILTERS  
BIPOLAR IONIZATION  
CO<sub>2</sub> SENSORS

### STRETCH CEILING TECHNOLOGY



HIGH INDOOR AIR QUALITY AND HIGH ENERGY EFFICIENCY  
THERMAL AND ACOUSTIC COMFORT COMBINED  
WITH INFINITE CUSTOMIZATION

### ACTIVAIR HYBRID HYDRONIC AIR TERMINAL



LOW HEIGHT PROFILE  
MODULATING CAPACITY AND LOAD REACTIVITY  
HIGH VENTILATION CAPABILITIES

### AIR PURIFIERS



PORTABLE SOLUTIONS  
HEPA FILTERS / CARBON FILTERS  
UV LIGHTS / BIPOLAR IONIZATION

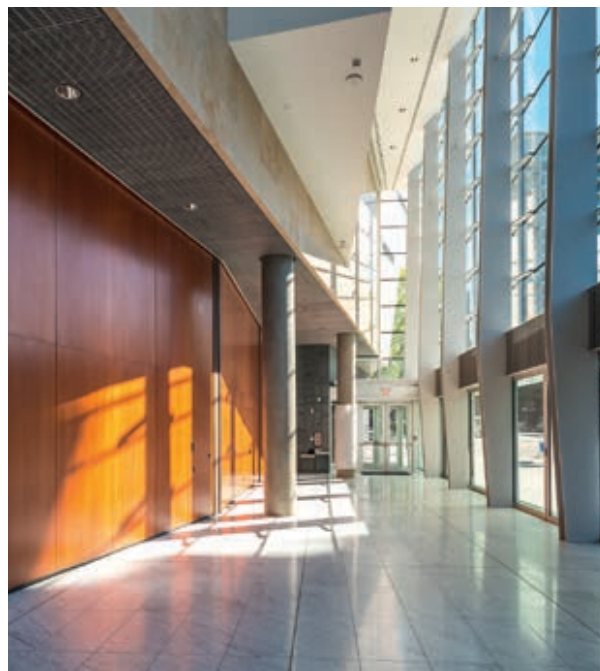
## HEALTHY BUILDING SERVICES FOR COMMERCIAL BUILDINGS



We will work with you to fully understand the needs of your business.

Our building protection services help to ensure high-quality air by keeping the building's HVAC system properly maintained.

Our BluEdge service platform is designed to meet your requirements and keep your equipment running efficiently.



### PREDICTIVE MAINTENANCE

- Remote connection through BMS manages IAQ and ventilation in line with best practices
- Make changes and fix issues remotely
- Optimize maintenance and operational costs
- 24 x 7 command center



### HVAC EUROPEAN CONNECTED SERVICES PORTAL

- Provide advanced remote analytics
- Optimize energy efficiency, equipment uptime, occupant comfort and operational productivity
- Actionable insights by different communication protocols
- Optimize autonomously or through a remote application

## RETROFIT SPARE PART SOLUTIONS FOR COMMERCIAL BUILDINGS



### INNOVATIVE TECHNOLOGIES

- M5 filters
- New filtering media technologies
- High filtration efficiency on PM2.5 particles



### ADD-ON RETROFIT ALTERNATIVES

- AHU-UVC add-on kits
- Carbon surface & F7 filtering technology options
- Add-ons are easy to install in the universal frames of existing AHUs
- Effective against viruses, bacteria, small particles and VOCs



### RANGE OF FILTRATION SOLUTIONS

- High-efficiency filtration solutions
- A large variety of air filters
- Solutions for our full product range (AHU, RTU, TFCU)
- More than 1300 references of air filters to cover all sizes / filtration needs

### GET STARTED WITH AN EXPERT

From safe business reopening to ongoing enhancements to customer experiences, a healthier future starts indoors. Let's work together to unlock the potential of healthy commercial buildings. Visit us at [carrier.com/healthybuildings](https://carrier.com/healthybuildings) to learn more about our Healthy Buildings Program and connect with one of our experts.



HEALTHYBUILDINGS