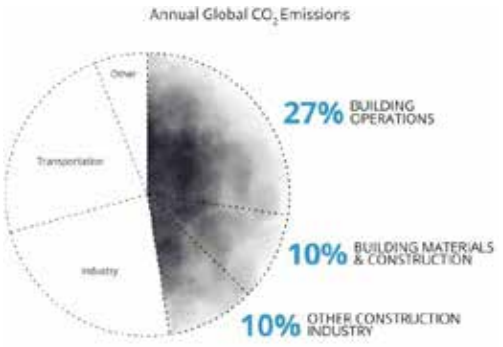
ENERGY RECOVERY VENTILATION AND DECARBONIZATION

DECARBONIZE TO COUNTER CLIMATE CHANGE AND IMPROVE THE HUMAN CONDITION BY CREATING HEALTHIER BUILDINGS

Building Decarbonization Counters Climate Change

A major contributor to climate change is the built environment as it generates 47% of annual global carbon dioxide (CO2) emissions. To make buildings more environmentally friendly, they need to use less energy, lower their carbon use, or be decarbonized all together. This process reduces the greenhouse gas (GHG) emissions, such as CO2, produced over a structure's entire lifecycle. Achieving building decarbonization is based on building type, which is outlined in our white paper on building decarbonization and resiliency.



The built environment generates 47% of annual global CO2 emissions (Source: Architecture 2030)

Decarbonization, Ventilation and Indoor Air Quality

To decarbonize a building, energy-efficient technologies must be applied to cut GHG emissions. However, this can't be at the expense of indoor air quality (IAQ) because this will harm occupant health. The most effective way to decarbonize a building while enhancing IAQ is to recycle or reuse the energy in the air via energy recovery ventilators (ERVs). ERVs optimize energy efficiency by using otherwise-wasted total energy to condition incoming outdoor air while providing increased ventilation to realize cleaner and healthier indoor air. Indeed, the EPA states that "ERVs provide excellent opportunities for saving energy, controlling humidity and providing sufficient outside air to promote IAQ."

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Decarbonization Leads to Healthier Buildings

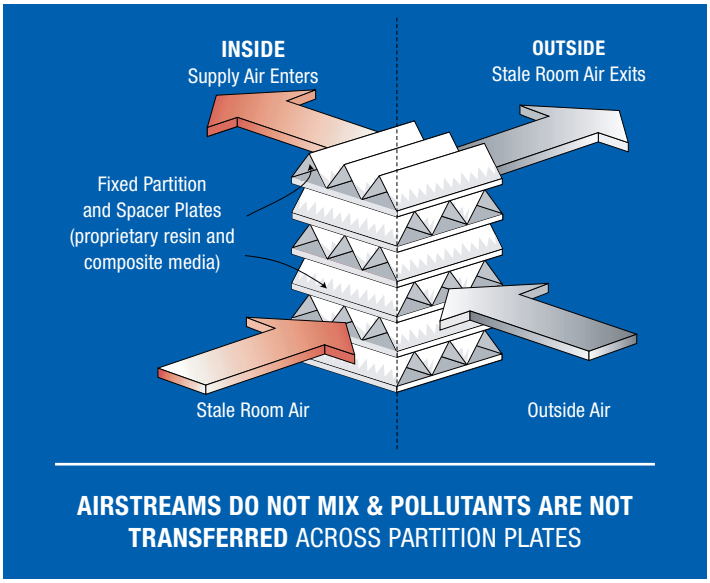
Climate change poses numerous challenges to the built environment, such as more heat and precipitation and higher sea levels. Buildings must become resilient to this changing world, which ultimately supports decarbonization. How so? By enabling structures to stay operational during adverse conditions, the grid can produce energy at the best times for clean energy, which means less GHG emissions. What's more, by being more resilient, buildings can maintain consistent levels of increased ventilation. This means IAQ will be enhanced and occupant health will be bolstered. Thus, increasing ventilation creates healthier buildings that can withstand climate-change challenges.

RenewAire®
Energy Recovery Ventilation

Building Decarbonization + Resiliency = Improved Human Condition

When buildings are decarbonized and made more resilient, an underlying focus is not just maintaining sufficient IAQ, but actually bolstering it. That's where energy-efficient ventilation technologies, such as ERVs, come into play. ERVs provide increased and balanced ventilation while also optimizing energy efficiency. This means that indoor air is cleaner and healthier, occupant wellbeing is boosted and GHG emissions are reduced. What does this all add up to? Ultimately, the result is that building decarbonization and resiliency strengthen indoor environmental quality (IEQ) and, therefore, improve the human condition.

For more information, view our white paper on building decarbonization and resiliency.



How an ERV works: https://www.renewaire.com/how-our-ervs-work/
(Source: RenewAire)

For 40 years, RenewAire®, Waunakee, Wis., has been an HVAC industry pioneer for improving human health, cognitive function, productivity and wellbeing by enhancing indoor air quality (IAQ) via energy recovery ventilation (ERV) technologies. This is accomplished energy-efficiently, cost-effectively and sustainably with fifth generation static plate enthalpy core energy recovery ventilators and dedicated outdoor air systems (DOAS). For more information, visit www.renewaire.com, email: ramarketing@renewaire.com or call (800) 627-4499.

[1] "Why the Built Environment?," Architecture 2030, https://architecture2030.org/why-the-building-sector/.

[2] "ASHRAE Position Document on Building Decarbonization," ASHRAE, June 26, 2022, https://www.ashrae.org/file%20library/about/position%20documents/pd_buildingdecarbonization_2022.pdf.

[3] "IAQ Building Education and Assessment Model (I-BEAM)," U.S. Environmental Protection Agency (EPA), January 19, 2017, https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/text_modules_energy_efficiency.pdf.