

# Building Decarbonization

Map out your journey with Trane



Whether associated with greenhouse gas emissions, pollutants or other factors, reduced air quality can lead to many potential health concerns. Building decarbonization reduces the use of fossil fuels to heat and cool buildings, in turn reducing the emission of harmful levels of carbon dioxide into the atmosphere.

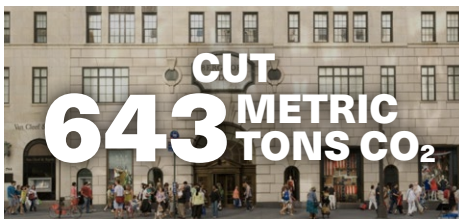
## Have You Started Your Building's Decarbonization Journey?

The pressure is on from policy changes, new regulations and stakeholder values for sustainability—and the financial incentives to reduce carbon emissions are becoming more attractive and available.

You may be wondering where to begin with carbon reduction in your building? Or how you can do even more to take advantage of the work you have already done? Trane can meet you at any point and help you develop a decarbonization plan tailored to your needs and goals.

## Case Studies

### Neiman Marcus Group/ Bergdorf Goodman



**Highlights:** Installed two new 500-ton water-cooled chillers; incorporated low-GWP refrigerant; upgraded control system

**Results:** Eliminated fossil-fuel use in the building; cut annual emission of 643 metric tons CO<sub>2</sub>; \$61k in annual energy savings

### Prairie Trails School



**Highlights:** Deployed solar arrays for renewable energy source in 50+ year old facility; installed Variable Refrigerant Flow (VRF) system for zoned heating and cooling; all controlled by new building automation system

**Results:** Offset 100% of school electrical use by solar arrays; transformed to a net-zero facility with passive house design; saved \$32k annually in gas and electricity costs

### State of New Mexico Green Energy Project



**Highlights:** Provided comprehensive guaranteed energy savings performance contract; covered energy efficiency upgrades to 32 community buildings; included renewable energy; installed new HVAC equipment and building controls

**Results:** Saved \$1.2 million in annual savings; offsets 7,400+ metric tons of CO<sub>2</sub> annually; supported the local economy while creating jobs; generated 6 megawatt-hours of renewable energy each year

Trane will work with you to decarbonize your building, drawing from our HVAC products, building management solutions and turnkey energy services. Whether your objectives focus on achieving sustainability, climate action goals or meeting local regulatory requirements, Trane can support your journey.

## Trane's 4 Pillars of Building Decarbonization

### 1. Improve energy efficiency.

**Energy Efficiency:** *def. Using less energy to perform the same task or produce the same result.<sup>1</sup>*

Wasting less energy through more efficient buildings is one of the easiest and most affordable ways to reduce carbon emissions. Trane is a leading global provider of energy efficient HVAC equipment and solutions. We have delivered more than \$1 billion in guaranteed energy savings to customers, including schools, hospitals, government facilities and commercial enterprises.

#### Energy Efficiency Solutions

- High-efficiency HVAC equipment to reduce energy waste and meet regulatory requirements
- Services to optimize and maintain system performance for longer life and efficiency
- Comprehensive building efficiency upgrades, including guaranteed energy programs where future energy savings fund the upgrades
- Building automation solutions to reduce energy consumption and costs

### 3. Prioritize safe refrigerant use.

**Refrigerant Management:** *def. Fluorinated gases have a potent greenhouse effect and are widely used as refrigerants. Managing leaks and disposal of these chemicals can avoid emissions in buildings and landfills.<sup>3</sup>*

We can facilitate the transition to low-GWP refrigerants in HVAC equipment and provide on-site management to minimize the effects of potential leaks.

#### Refrigerant Management Solutions

- HVAC products with low-GWP refrigerants
- Real-time monitoring for potential refrigerant leaks
- Ongoing tracking for refrigerant replacement requirements
- Documentation for annual emissions reporting

<sup>1</sup> Office of Energy Efficiency & Renewable Energy <https://www.energy.gov/eere/energy-efficiency>

<sup>2</sup> Environmental and Energy Study Group <https://www.eesi.org/electrification/be>

<sup>3</sup> Project Drawdown <https://drawdown.org/solutions/refrigerant-management>

<sup>4</sup> NDRC <https://www.nrdc.org/stories/renewable-energy-clean-facts#sec-what-is>

### 2. Electrify to cut carbon.

**Electrification:** *def. Replacing direct fossil fuel use (e.g., propane, heating oil, gasoline) with electricity in a way that reduces overall emissions and energy costs.<sup>2</sup>*

Reimagine efficient, low-carbon HVAC systems. Trane offers many new and proven solutions for electrification such as heat pumps including VRF, chillers and rooftop units. Our local experts can create a customized plan that can help you improve sustainability, meet local building codes, satisfy regulatory requirements and ensure long-term system reliability.

#### Electrification Solutions

- Hybrid or all electric systems for low carbon heating and cooling
- Financial strategies to fund decarb programs and manage electricity costs
- Building Services and Intelligent Services to proactively maintain, repair and optimize HVAC systems

### 4. Transition to carbon-free energy.

**Renewable Energy:** *def. Also referred to as "clean energy," which comes from natural sources or processes that are constantly replenished, such as solar and wind.<sup>4</sup>*

Renewable energy approaches are frequently bundled with our solutions for energy efficiency through performance contracting. Our experts in renewable energy can help you evaluate solutions now that will provide benefits well into the future.

#### Renewable Energy Solutions

- On-site generation
- Water/hydropower
- Distributed generation
- Power purchase agreements
- Virtual power purchase agreements

Start decarbonizing your building.  
Contact us to begin the journey.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.com](http://trane.com) or [tranetechnologies.com](http://tranetechnologies.com).