

Some of the soundest climate action strategies include reusing existing buildings, adapting them to fit the needs of new owners, and keeping those buildings operating long into the future. Milken Community School’s proposed re-use of the American Jewish University campus embodies these principles.

A significant portion of a building’s carbon emissions comes from its materials, specifically their fabrication, delivery, assembly, and end-of-life protocols. That embodied carbon is projected to make up 49% of the total carbon emissions of global new construction between now and 2050, according to Architecture 2030, a nonprofit focused on climate change and the built environment.

For a brand-new, energy-efficient building, it can take between 10 to 80 years to “pay back” the carbon load resulting from its construction. Waste is also an issue with respect to new construction’s climate impact. According to a recent U.S. Environmental Protection Agency report, building-related construction and demolition debris account for 26% of all non-industrial waste generated in the United States. Adaptive reuse can cut back enormously on both the emissions and the construction and demolition waste that come with building something new.

To enhance these buildings for their new occupants, and give both even more energy-saving potential, localized tactics can be deployed:

1. Where new mechanical, electrical or plumbing is required in the future, consideration shall be given to the following:
 - a. Use “premium” efficiency or electrically commutated (EC) to save energy.
 - b. Provide minimum MERV 13 filters for all outside air streams for improved air quality.
 - c. Use variable frequency drives (VFD) for all air handling, secondary pumps, and cooling tower/evaporation-condensation fans size 2hp and above
 - d. Use non-ozone depleting refrigerants.
 - e. Implementing a Building Automation System. Most of the existing controls are pneumatic.
 - f. Use low flow plumbing fixtures and automatic faucets/flush valves for reduced water usage.
 - g. Use lighting controls and dimmers.
 - h. Optimize lighting levels for occupancy types.
 - i. Use occupancy sensors to shut off or reduce lights, VAV terminals and exhaust fans.
 - j. Use energy efficient light fixtures
 - k. Where gas-fired equipment is replaced, consider all-electric heating sources. If gas equipment is utilized, use only low or ultra-low NOX equipment.
2. New areas of glazing will be 1” insulated glazing units with a low-emissivity coating, to help reduce solar heat gain within the building, reducing the need to cool the air during sunny days.