



Facade and Natural Ventilation Solution for a Basement Event Space

Part of a Community Hub building with many functions under one roof, in a residential area.

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Key objectives for the design were...



Increasing ventilation rate and air quality assisted by natural ventilation.

Reducing heating and cooling demand via passive strategies.

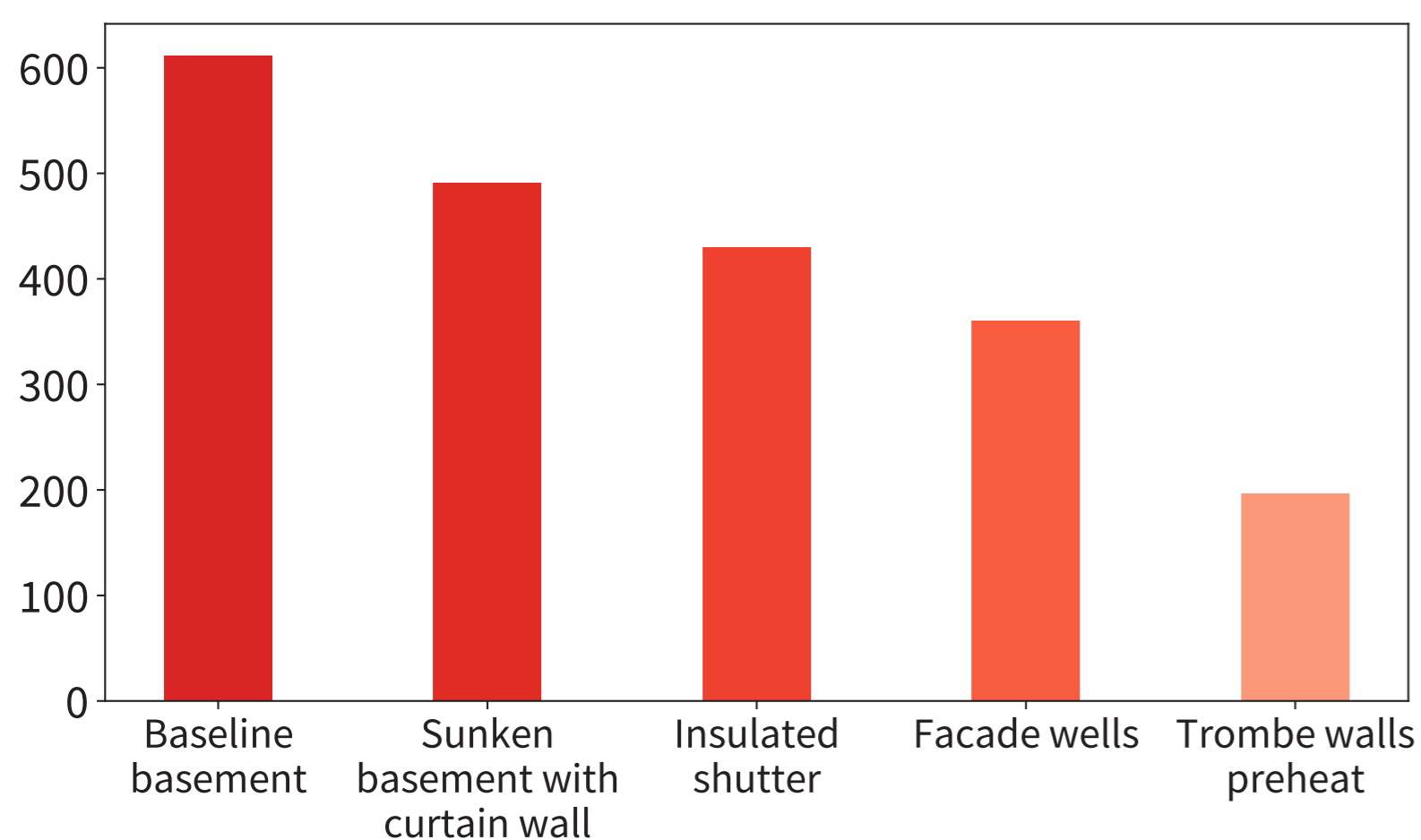
Taking advantage of daylight for wellbeing and energy use reduction.

Reducing noise egress to the surrounding neighborhood.

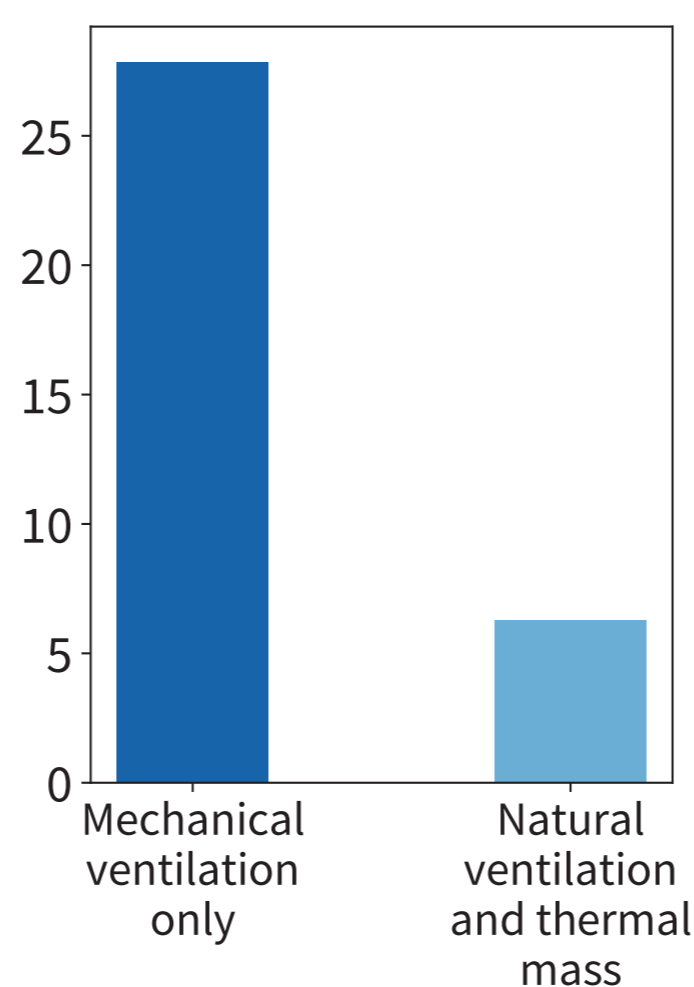
Reducing energy use and carbon emissions.

The design response achieved..

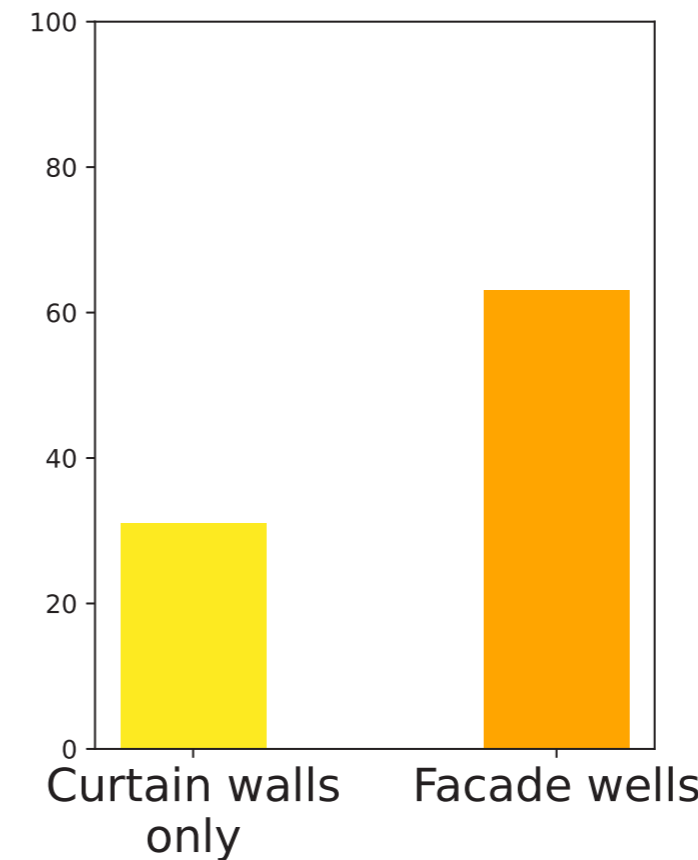
Heating Demand Reduction (MWh)



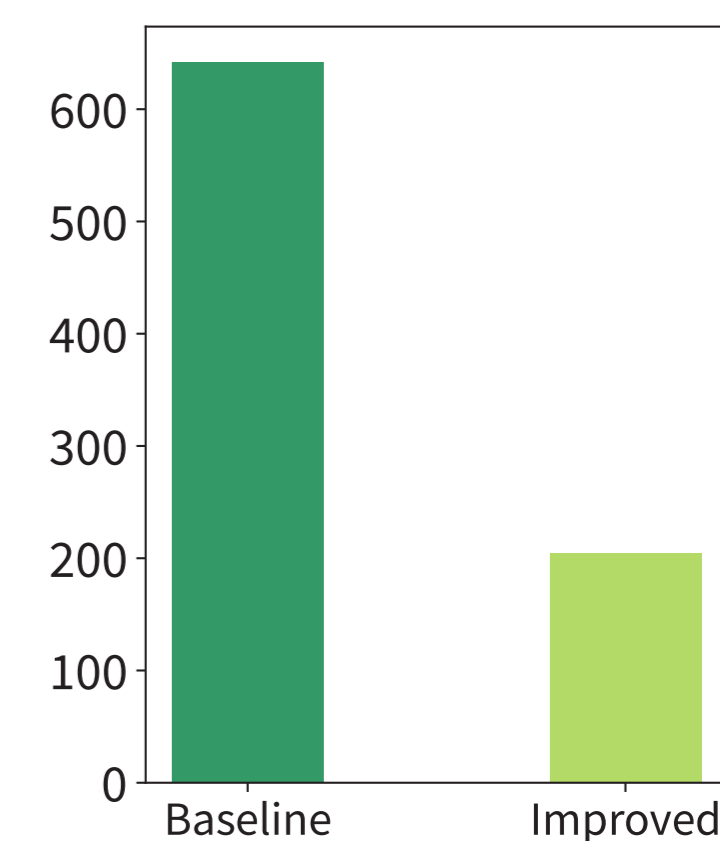
Cooling Demand Reduction (MWh)



Daylight Autonomy Improvement (%)

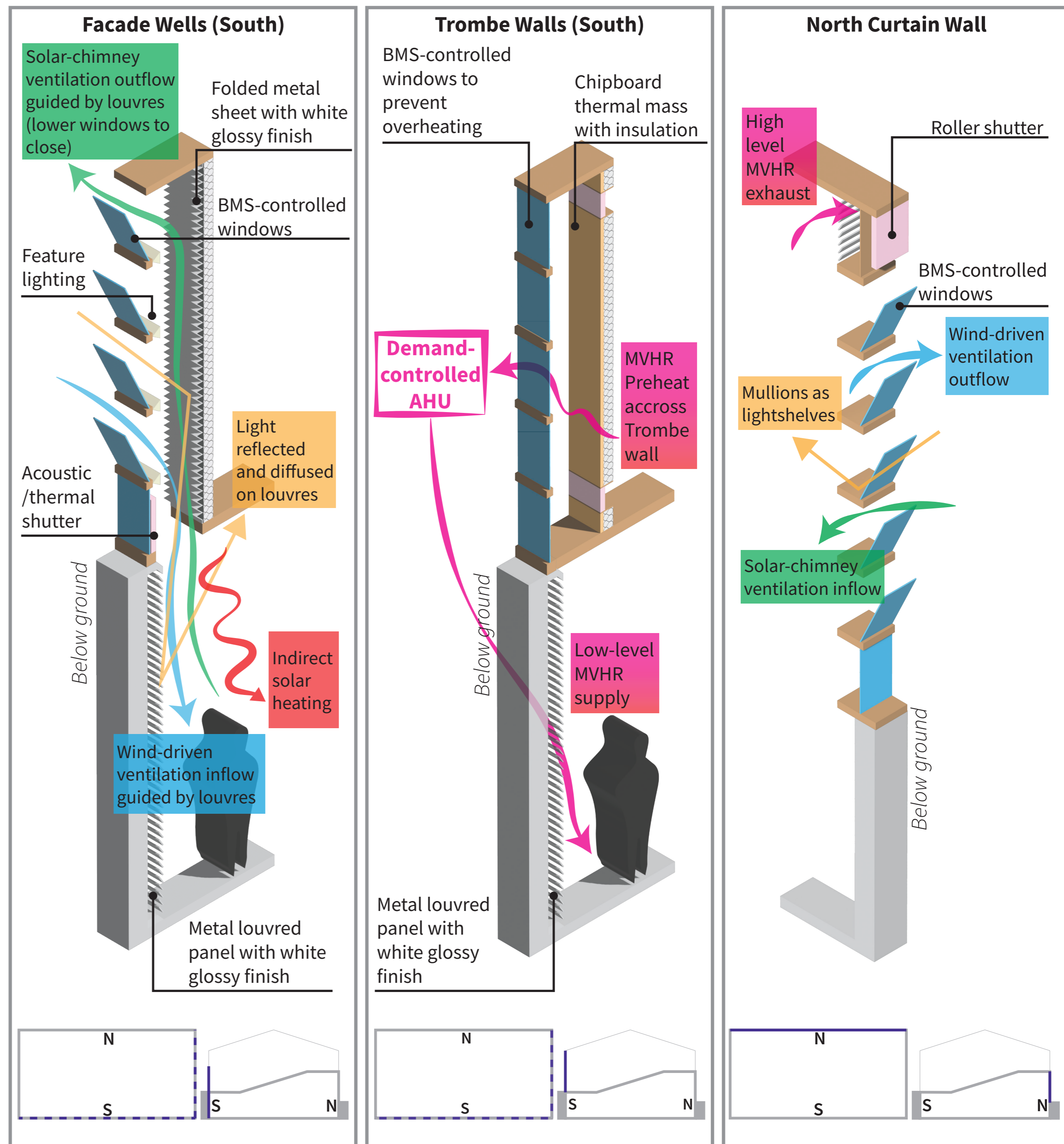
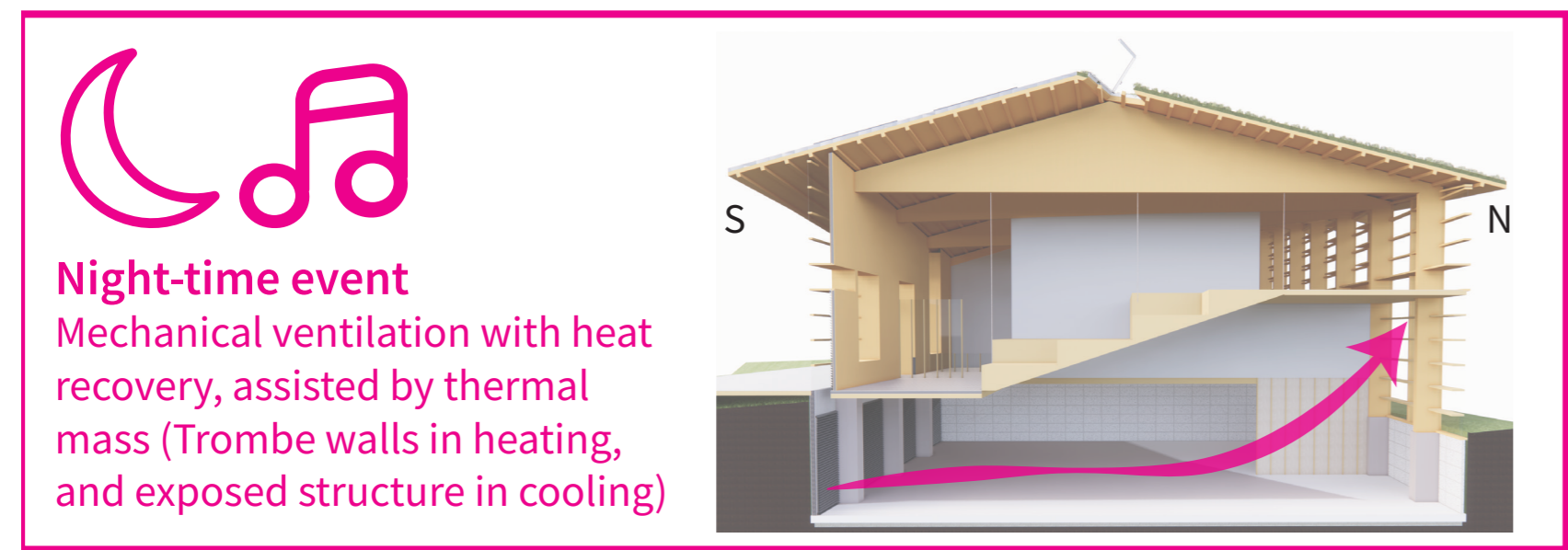
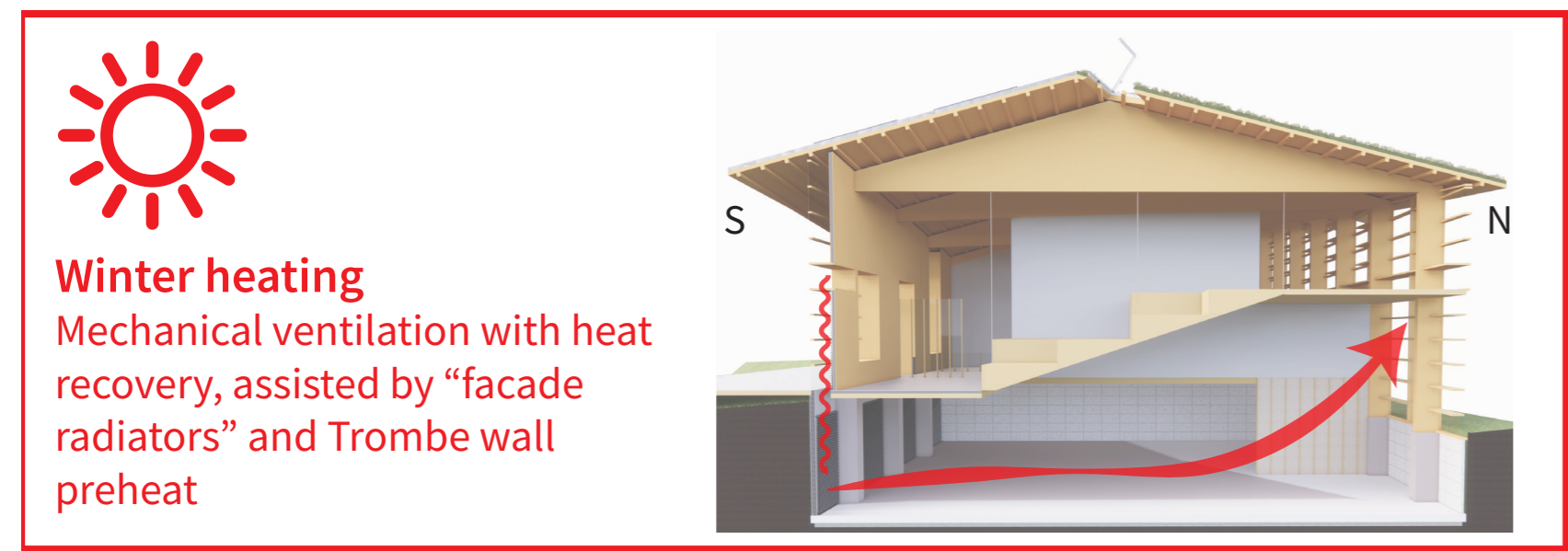
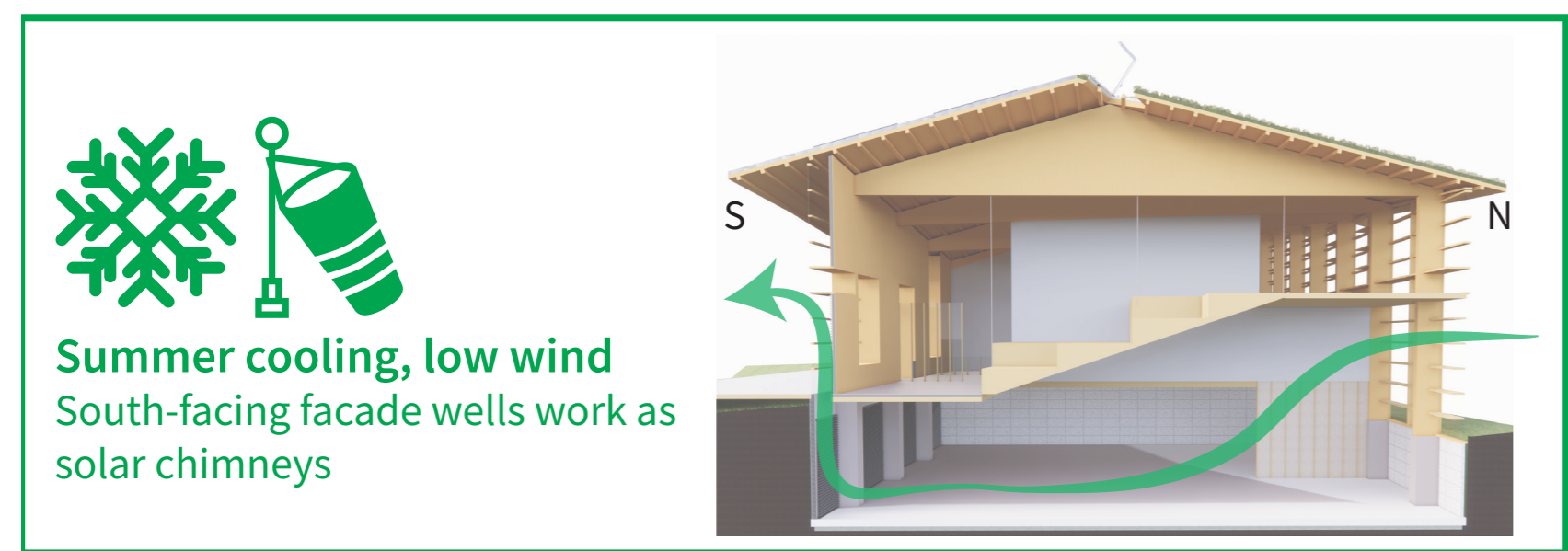
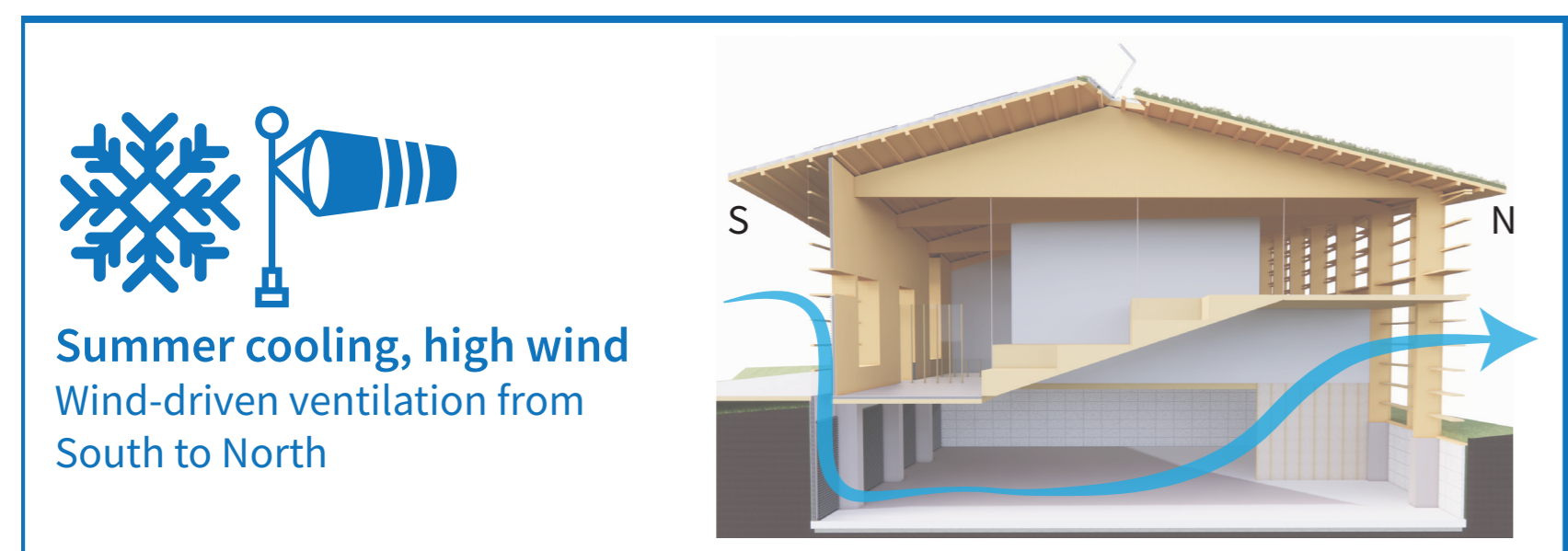


Overall Energy Demand Reduction (MWh)



A key strategy was the facade system, using the wall area on the upper floors, which allows different modes of operation...

Note: colors for modes of operation on the left serve as key for facade system annotations.



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