The Khuoi Ky Attached Houses project integrates bioclimatic design, cutting-edge technologies, and regional building materials to craft a high-performance structure. The project prioritizes minimal energy usage, aiming to elevate the residents' quality of life while honoring their traditional lifestyles. Insights from a nearby traditional home led to the incorporation of effective passive design elements like natural ventilation, shading, and optimized daylight openings. By leveraging local materials and renewable energy, including solar water technology, the houses achieve high thermal and lighting efficiency, culminating in net-zero energy consumption. Also, the design adopts low embodied carbon strategies and robust flood defenses, underscoring our commitment to sustainability and resilience. In essence, Khuoi Ky Houses stand as a testament to sustainable, economically feasible, and eco-conscious construction in the region that is prepared for the future climate changes observed.