**Sierra Club NJ Chapter and NJ 50x30 Building Electrification Team**   
**Design and Construction of a home meeting "Passive House" standards.**

Early in 2023, Diane and John moved into their new 2 story home, designed to "Passive House" standards. This fulfilled a dream for the last 10 years. They are excited to introduce you to their house, which is built to the world’s most rigorous building standard. Buildings are insulated to provide maximum thermal retention with minimal heating or cooling. Fresh air is filtered in, and stale air is exhausted through heat recovery units. This custom house used factory built modules, that often can be assembled in one day. Final “Blower Door Test” showed the house was sealed significantly better than the Passive House requirement. Amazing performance is achieved by the Zehnder Energy Recovery Ventilation and the Mitsubishi Heat Pumps. New passive construction costs only a few percent more than standard construction, and quickly pays back. The easy final step is to add a nominal amount of rooftop solar to achieve NetZero! The 5 passive house basic design principles provide direction for anyone to update their own house toward “NetZero”.

