Sustainable Housing in Bulgaria

Challenge:
These two custom homes are located on the side of a hill where there is no access to water or electrical services. This posed an immediate problem with trying to obtain approval to build on this site. The homes needed to be a self-sufficient and sustainable design.

Solution:
The statistics compiled from other Quad-Lock projects in the region were used to convince the officials that a self-sufficient design could be accomplished. The energy efficiencies of Quad-Lock ICF and concrete meant that the energy requirements were cut dramatically and could be supplied by a hybrid system utilizing a wind generator and solar panels. The water services are supplied through two 130' [40m] wells.

Initially, a geothermal installation was looked at and deemed too expensive for only two homes. A water-in-water heating and cooling system with thermal pumps was used because of its efficiency and environmental friendliness. In the winter, the thermal pump heats the water from 13°C to 40°C and circulates it through the in-floor system. In the summer, the water is circulated bypassing the thermal pump.

Why Quad-Lock:
- Energy efficiencies
- Product familiarity through other projects in Bulgaria

These were the first homes of their kind in this region and have been widely recognized as a premier example of alternative or green building methodology.