



GPEKS

Clean Energy
Development & Services

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Positive Energy Home Project

The goal is to build a new generation of single detached homes for the middle class that are affordable and offer the highest possible level of sustainability.

Requirements	Solutions
Costs less to build than the average home	Incorporate best practices for passive design 2 story buildings versus typical bungalow No basement –Garage on North side Compressed Earth Blocks
Cost less to operate (mortgage and maintenance) than average home	Use compressed Earth Blocks Use solar photovoltaic Limited mechanical systems
Produce more energy than what it consumes for combined needs of heating, cooling, electricity, hot water and local transport	Passive solar design with minimal heating and cooling needs Highest Efficiency building, appliances, lighting Space efficiency with multi-function areas, highly intelligent storage Optimal Integration of systems
Lowest cost to maintain over 50 years offering the highest residual value at the end of 50 years	No high maintenance/low lifetime material such as asphalt shingles, wood and insulation that can rot and mold Reduce possibilities of water leaking Fiberglass windows Solar modules totally integrate as roofing material
Lowest embodied energy of building material	Compressed Earth Blocks instead of wood framing materials and layers or concrete and high embodied energy materials
Safer and healthier to live in than the average home	Compressed Earth Blocks
Beautiful, original	Work with landscape designers and artists to add a special touch



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Requirements	Solutions
More comfortable to live in with no cold air feeling and temperature	Compressed Earth Blocks Hydronic floors
Low temperature stratification	Compressed Earth Blocks Hydronic floors
Well insulated while not airtight	Compressed Earth Blocks
Can be built in less time than the average home	Compressed Earth Blocks
Produces enough excess energy to power two electric cars	10 KW Solar Photovoltaic system
Walls are made from locally available materials	Compressed Earth Blocks
Construction and operation such that it supports local jobs and the local economy more than any other design	Compressed Earth Blocks Solar Energy – A locally available resource Solar installation: local jobs – versus jobs where fossil fuels are extracted
Gives the occupants the highest protection against fires, floods, ice storms, power outages, hurricanes, mold, wood boring beetles and other pests, pollutants inhalation	Compressed Earth Blocks features Passive solar home are less affected than average homes by extended power failures No basement Solar heat and electricity can be used in case the grid is down
Design allows food production year round	Veranda on the south side with aquaponics setup

Other Benefits

- Only produces green electricity
- Does not contribute to deforestation
- Does not encourage fracking, oil sands, resource wars or even flooding/damming more pristine areas
- Can inspire the world to build better, greener, more sustainable homes to heal the planet
- A home that is built to last centuries and which could become part of your legacy for many generations