ZED HOMES
Carbon Neutral Buildings

Homes with...

Net Zero

Carbon Emissions
Energy
Water
Waste

Energy Efficient Lighting
Grey Water Recycling System
Rain Water Collection
Compost
Natural Landscaping
Solar Thermal
Solar PV System
Dual Flush Toilet
Faucet Aerator
High Efficiency Water Heating System
Energy Star Appliances

ZED Cooling Systems
ZED EARTH

... TOWARDS ZERO ENERGY DEVELOPMENT...
ZED’s bioclimatic Design

Conventional design practices

Micro Climate

Building Configuration

Building Envelope

Designed Building

HOTTER THAN OUTSIDE TEMPERATURE

OUTSIDE TEMPERATURE

CLIMATE

GOOD LANDSCAPING, VEGETATION

PROTECTION FROM SUN, RAIN & WIND, DAYLIGHTING...

Choice of suitable building materials

GOOD INDOOR ENVIRONMENT & EFFICIENT APPLIANCES

LOW-ENERGY AIR CONDITIONING SYSTEMS

COMFORT ZONE

ZED’s Bio-climatic design

Passive Design

Desired Comfort Conditions
Green Strategies

6 STRANDS OF BUILDING DESIGN
- Water$^\text{+ve}$
- Energy$^\text{+ve}$
- Waste$^\text{+ve}$
- Biomass$^\text{+ve}$
- Earth$^\text{+ve}$
- Air$^\text{+ve}$

DRIVERS OF SUSTAINABILITY
- Ecology
- Economy
- Social
STRA TEG Y

Reliability  Cost
Economy  Aesthetic
Efficiency  Function
Function  Ease of Execution
Finishes  Environmental Health

Time
CONSTRUCTION MANAGEMENT
CARBON REDUCTION

ZedEarth: 140 Stand alone Homes

The way ZedEarth is Built: 3875 tons CO₂

Operating CO₂ Reduction: 1400 tons CO₂/annum
WE USE

- Bricks, clay blocks, clay tiles,
- Ceramic tiles

No

- Incandescent lamps
- Waste exported

Municipal water imported

Forest timber

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CO₂ Emission Reduction in ZedEarth - Embodied
CER - 3875T

- BLOCK MASONRY: 118.51375 MT
- CONCRETE: 863.564325 MT
- STEEL: 354.095 MT
- SSM: 790.407216 MT
- FLOORING: 1030.321585 MT
CO₂ Emission Reduction in ZedEarth - Embodied CER - 3875T

- PCC: 105.6 MT
- Plastering: 200.8419 MT
- Backfilling: 72.0836675 MT
- Painting: 212.986275 MT
- Shuttering: 0.7171173 MT
- Joinery Details and Ironmongeries: 126.1208 MT
WE USE

LEDs, solar based or hybrids for external lights

Only

Composites

Shallow aquifers
We use:
- Geysers
- Synthetic fertilizers or pesticides

No:
- Chemicals for treating water
- HCFC CFC or ODS
- Toxic paints
CO₂ Emission Reduction in ZedEarth - Operations
CER - 1400MT

- Indoor Home Lighting: 120.91 MT
- Air Conditioning: 255.50 MT
- Solar Water Heating: 547.50 MT
- Solar Photovoltaic: 410.63 MT

*Note: The benchmark for lighting is raised to CFL in 2010 (Incandescent in 2000)
Concealed SERVICES Masonry

- Electrical Services
- Plumbing services
Closed bottom and channel permit
Construction of continuous
Reinforced concrete bond, 200mm
Or 400mm deep, around entire
Bldng.
Bond beams created thus can also
Be united with vertical column for
Exceptionally strong walls
**Saves dramatically** on Plinth
Foundation resource use and cost
Homes are built with specially engineered masonry blocks for walls. These also include designer blocks. These are energy-efficient, and are part of microclimate architecture ...
At ZED, we have **avoided use of cement mortar. A special pre-polymerised bonding adhesive is used** that is free of sand and cement. It uses no construction water, and needs no curing.

<table>
<thead>
<tr>
<th>Savings</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings in cement bags for 12,100 sqm wall area</td>
<td>2420 bags (121,000 kg)</td>
</tr>
<tr>
<td>Savings in sand used for the same area</td>
<td>485 cum</td>
</tr>
<tr>
<td><strong>Savings in water used</strong></td>
<td>620 liters/sqm (Total: 7500 KL)</td>
</tr>
<tr>
<td><strong>CO₂ emissions savings</strong></td>
<td>105 tons</td>
</tr>
</tbody>
</table>
Engineered Masonry blocks save up to 50% on time in erection of filler block walls in framed structures.

Offers better quality block work, at reduced labor cost, and facilitates better supervision therefore.

These EM blocks are mason-friendly. Weigh a mere 17 kg against the conventional solid concrete block’s 37 kg.

A typical 100 K Sq feet building claims 100,000 blocks. The 20 kg reduction per block means 2 million kg reduction... Or 2000 tons of Carbon emission reduced.
ACs are to be used only when you need it. And so these homes at BCIL Zed Earth have been provided with 36 Watt low energy ceiling fans that reduce power consumption by a chunky 25%. Washrooms offer energy-efficient ventilators.
• Energy-efficient air-conditioning that is innovative, easy-to-run, and saves 50 per cent on monthly energy bills.
The close-up view of the north-east corner. The columns (thirty-six in total) not only support the roof but also act as ornamental architectural elements.

The view from west side, taken in twilight. The reflection of the building, seen in the swimming pool, creates a surreal ambiance.
We help you:

grow your own water
harness your own energy
grow your own food

... at no extra capital cost
... at no extra selling price
... at a saving of 30% for end-user

ZED. Not end of the Alphabet.
The beginning of a new language.

Thank you