MINDFUL BUILDINGS

Seeing Beyond the ‘Green’

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MISTAKING SUSTAINABILITY WITH GREEN?

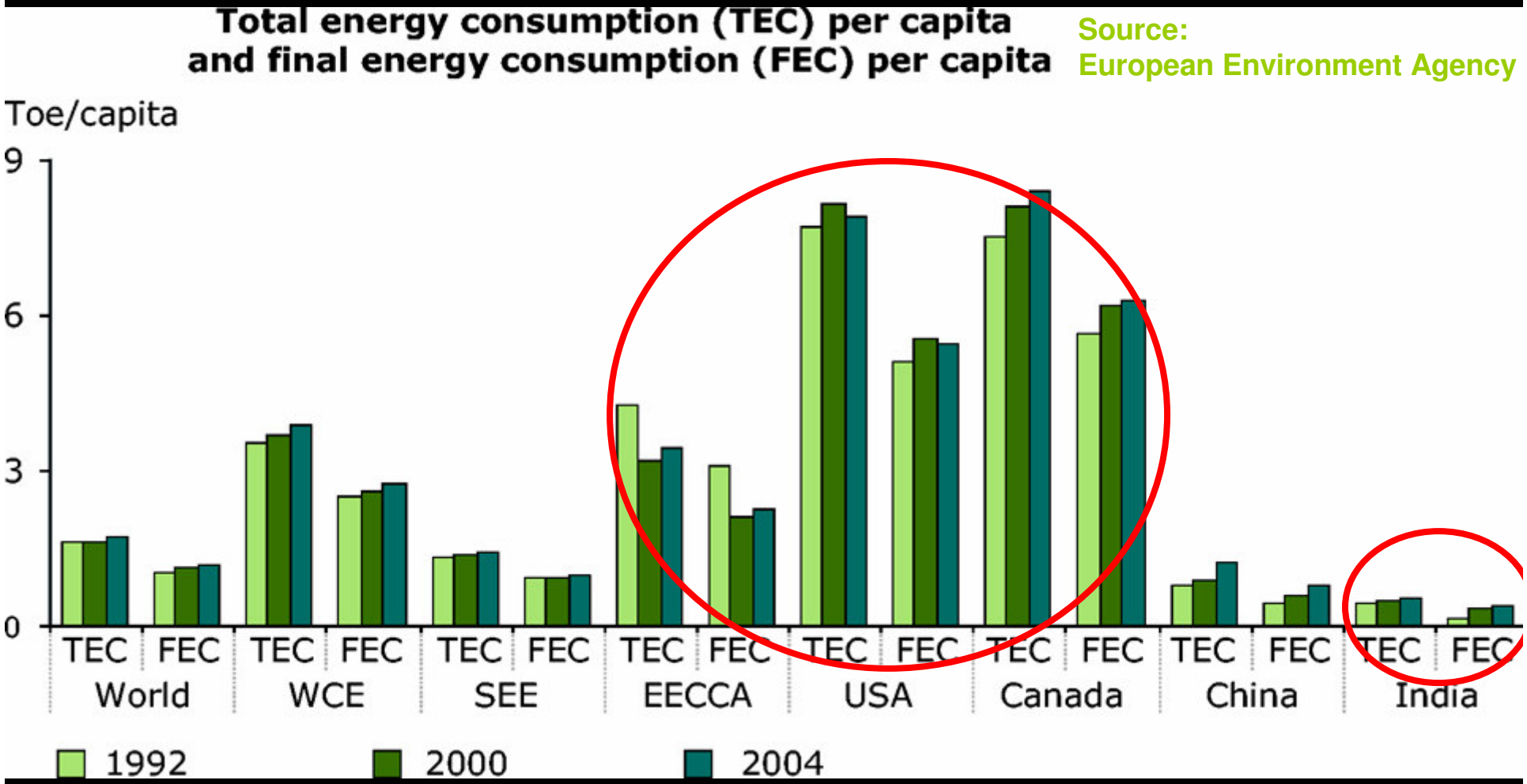
- All buildings happen at a GREAT cost to environment. There are NO green buildings, just a little less brown.

- Claims of 'GREEN' buildings are either uninformed or a little economical on truth.

A GLASS BUILDING IN THE DESERT SUN !

Where has common sense disappeared?

DO WE COPY OR MOVE ON?



Can't we lead by capitalizing on our propensity to be frugal?

MINDFUL BUILDINGS

BACK TO THE BASICS

- Simplicity
- Frugality
- Multiplicity


SIMPLICITY
Simplicity is not boring

SIMPLICITY

LEARN TO KISS
(Keep It Simple Stupid)

Use design to convert sophistication to simplicity without losing the magic.

Simpler the faster.

Simpler the cheaper.

Simpler the more beautiful.

FRUGALITY

Reducing Slab Concrete (and Steel)

Using appropriate technologies that

the West cannot match !!

[redacted]

[redacted]

FRUGALITY

Reducing Concrete –

Shells Made Simple

FRUGALITY

Reducing Steel -

There is Still a Scope Through Conceptual Thinking

DESI SPACE FRAME

vs.

ITS HI-TECH COUSIN

- Reduced diagonal ties.
- Half the shear members.
- Pyramids from cottage workshops.
- Assembled on site without staging.
- No expensive joints.
- Self aligning and curving.
- ⅓ rd cost of proprietory systems.

FRUGALITY

Local Materials, Skills and

Appropriate Response to Earthquake

Building is the nothing between boxes

Weight reducing vertically: Stone - rammed Earth - soil blocks - wattle and daub.

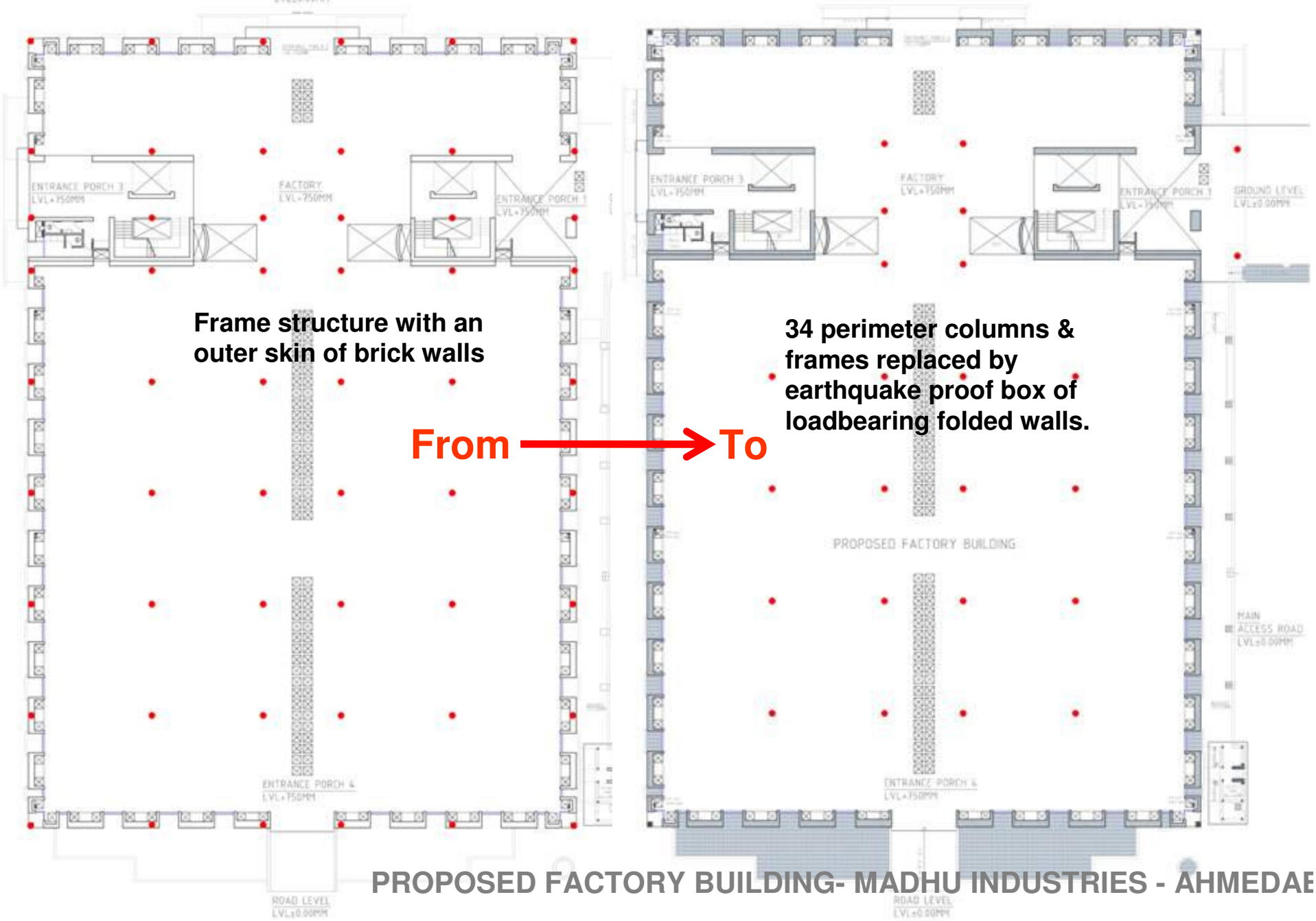
CRAFT PARK, BHUJ

PARAG PLAYSCHOOL, AHMEDABAD

MULTIPLICITY

FROM FRAME TO BOX

60m X 80m 4-STOREY FACTORY WITH 11m. SPANS



PROPOSED FACTORY BUILDING- MADHU INDUSTRIES - AHMEDAE

FOLDED WALLS WITH CORNER BARS

FLYASH-POLYSTYRENE
BRICKS PEPPERED WITH
ORDINARY RED BRICKS

WALL MASS & HOLLOW SLABS FOR ECONOMY, INSULATION AND THERMAL COMFORT

THE RESULTING FAÇADE

MULTIPLICITY

INTEGRATING STRUCTURE

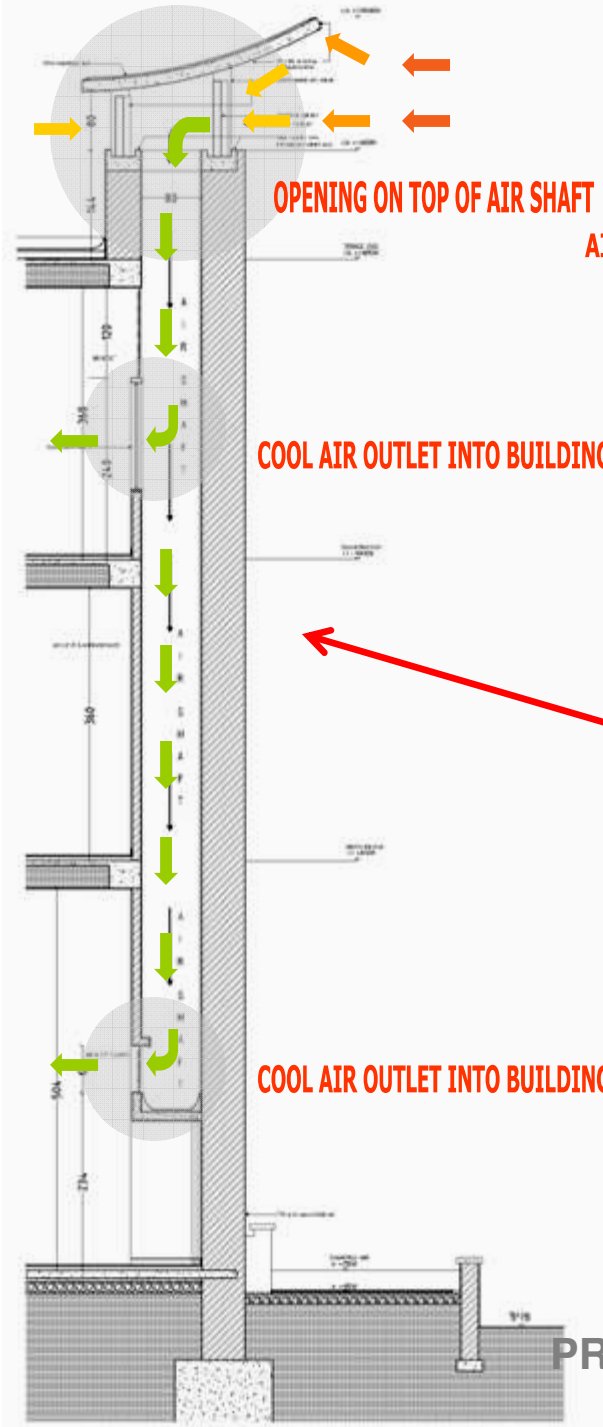
WITH

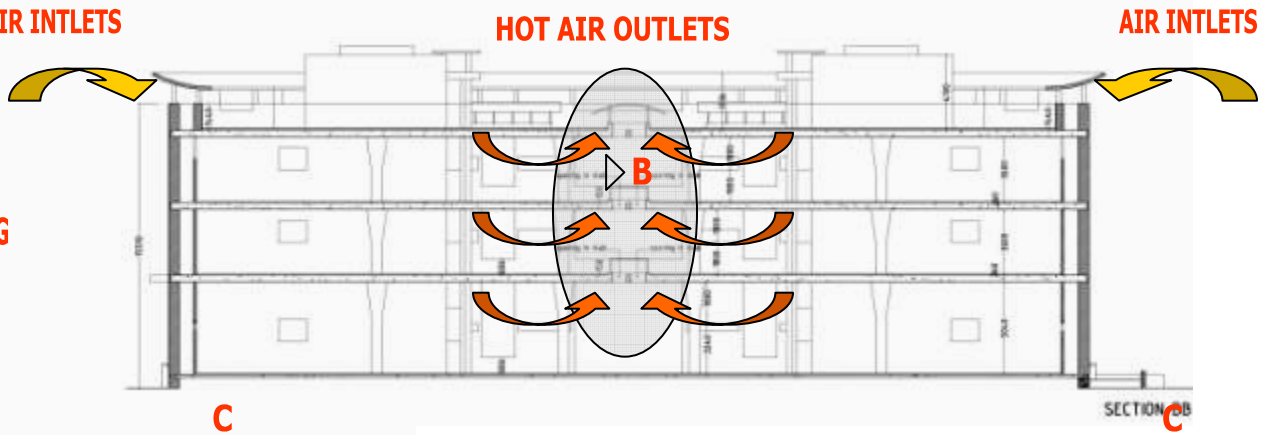
NATURAL COOLING

AND

DEEP LIGHT WASHING

NATURAL COOLING, VENTILATION AND LIGHTING





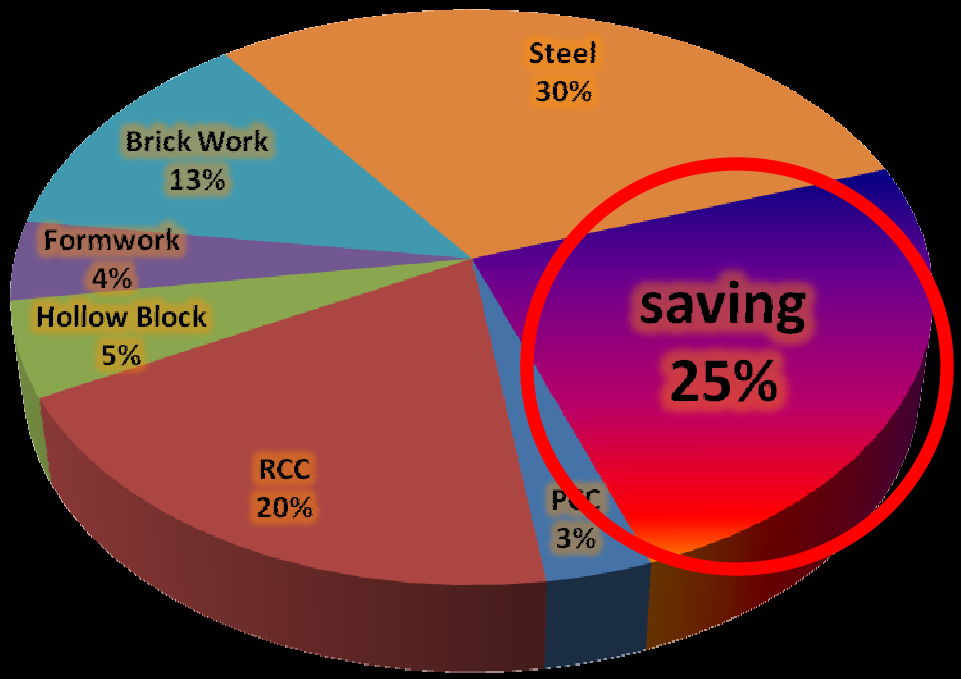
PROPOSED FACTORY BUILDING -MADHU INDUSTRIES - AHMEDA


PACKING DEPARTMENT

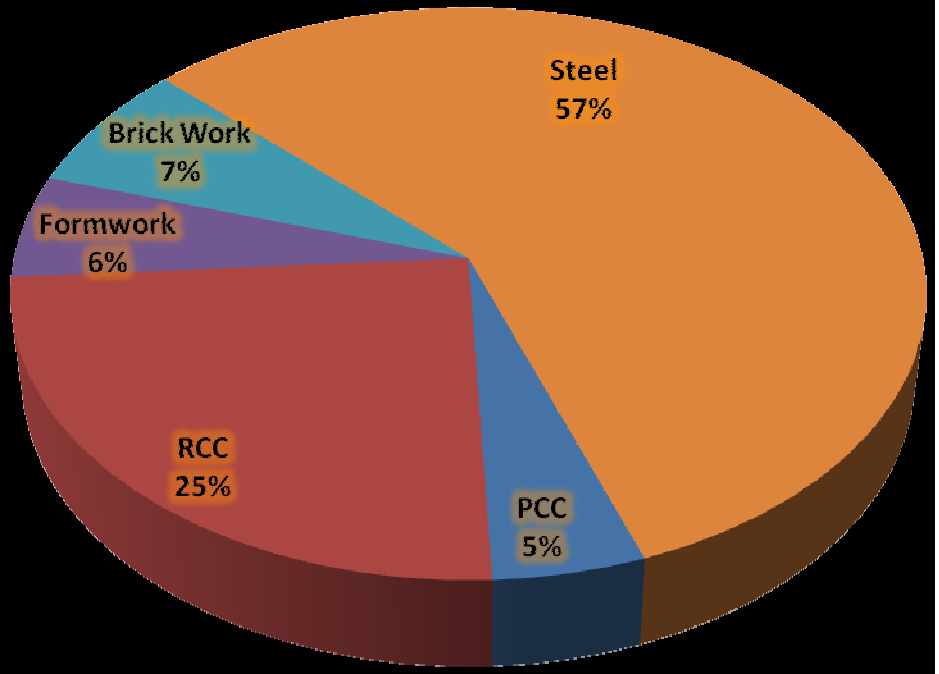
EMBODIED ENERGY & COST

FLYASH BRICK BOX & HOLLOW BLOCK FLAT SLAB VS. FRAME

LOAD BEARING STRUCTURE WITH HOLLOW SLABS



FRAME STRUCTURE



Finished cost Rs. 700/sq.ft. and power consumption reduced by 40%

LOW RISE: FLAT SLAB, SHEAR WALL & COLUMN SYSTEM

HIGH RISE: NIWARU, TILAK MARG, JAIPUR

ADVANTAGES

LESS HEIGHTS AND COOLING VOLUMES

BEAMS NOT INTERFERING WITH SERVICES

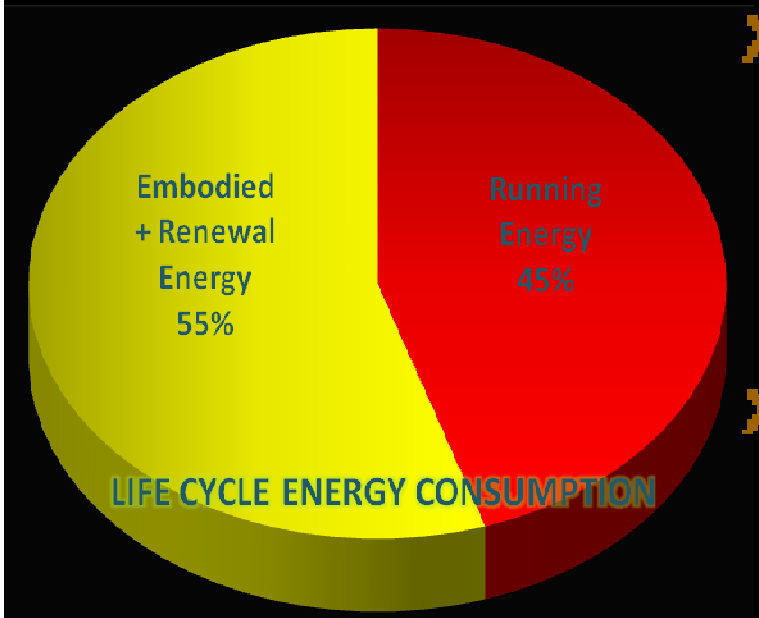
PARTITION FLEXIBILITY

FASTER TO BUILD

CLEANER LOOKING

CHEAPER BY ABOUT 20%

FUNDAMENTAL FLOWS OF RATING SYSTEMS:



- The embodied energy, constituting a large component of life cycle energy, misses fair evaluation as there are no measures of human ingenuity.
- Active technology interventions score over passive non-consumption.
- Low rewards for nurturing crafts, job creation and trickle-down prosperity in preference to mechanisation; poverty being the worst polluter.

So much for the work in the earlier slides! It has taken years to cope with buildings which 'float', now I have to design 'green' buildings which 'float'!!

MINDFUL BUILDINGS

KEEP IT SIMPLE

CONSERVE AND HARNESS RESOURCES

BRING IT ALL TOGETHER

THANK YOU