

# Buildings: Business as usual and low carbon scenario

**Architects : <2% of all Buildings**

**ACE : <2% of the buildings**

**Buildings now going green < 1.5%**

**Next 15 years: We build what we  
built in last 50 years**

**No precedents for solutions**

**2 innovations in 200 years**

# Building the Zero Energy Way

Geysers

synthetic fertilizers or pesticides

chemicals for treating  
water

**No**

HCFC CFC or ODS  
toxic paints

Bricks, clay blocks, clay tiles,  
ceramic tiles

forest timber

incandescent lamps  
waste exported

**No**

municipal water imported

LEDs, solar based or

hybrids for external lights

**Only**

composites

shallow aquifers



*Costs. . .*

**Same**

as a regular building  
save 50% on energy bills

## T-Zed: 92 Homes

Embodied CO<sub>2</sub> Reduction:  
20,000 tons CO<sub>2</sub>

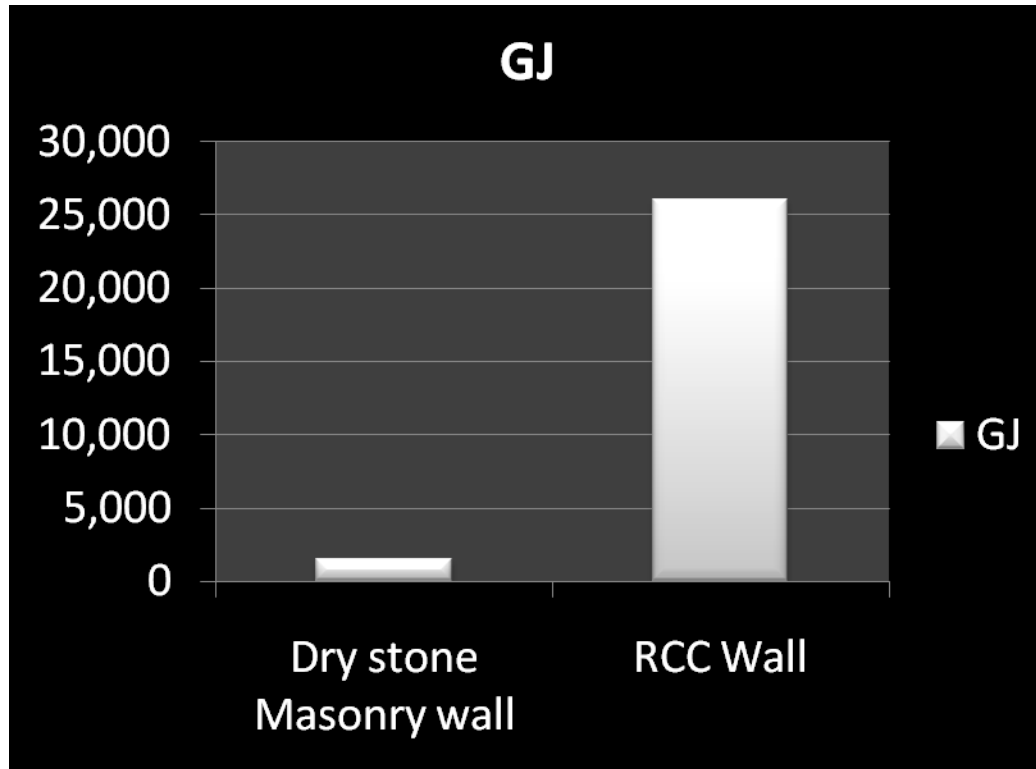
26,500 tons for Conventional Homes  
Vs 6253 tons for T-Zed Homes

Operating CO<sub>2</sub> Reduction:  
1260 tons per annum

1862 tons for Conventional Homes Vs  
602 tons for T-Zed Homes



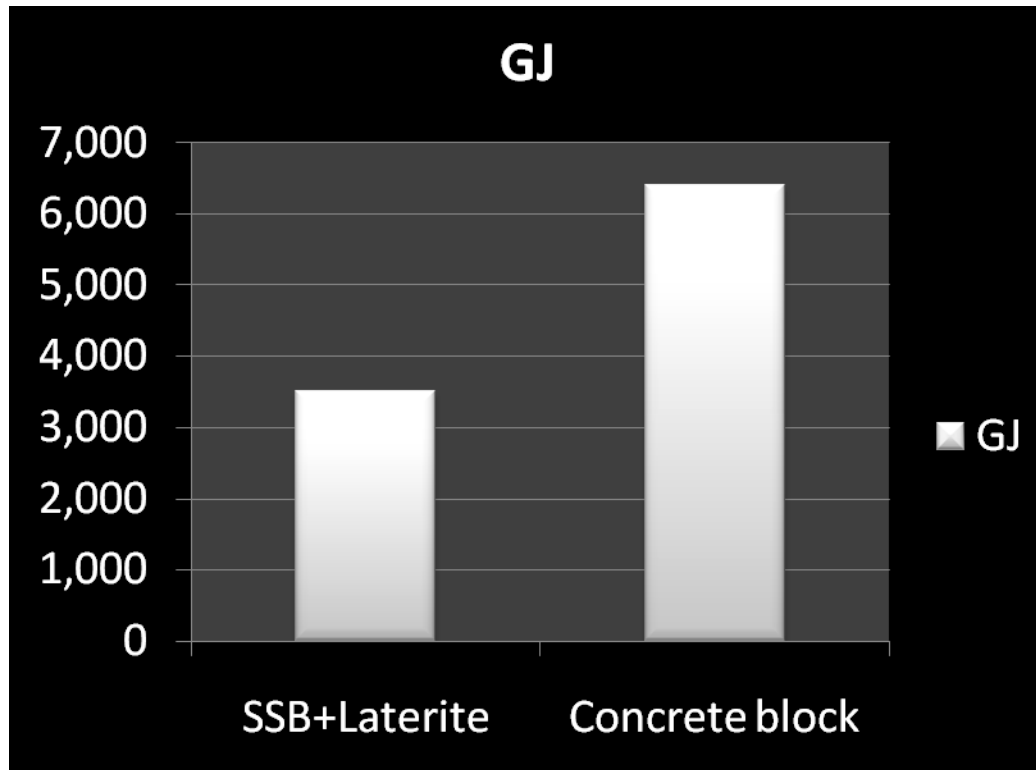
# Basement retaining wall



Energy Saved  
24,000 GJ

Reduction in Co2 Emission  
7,000 T

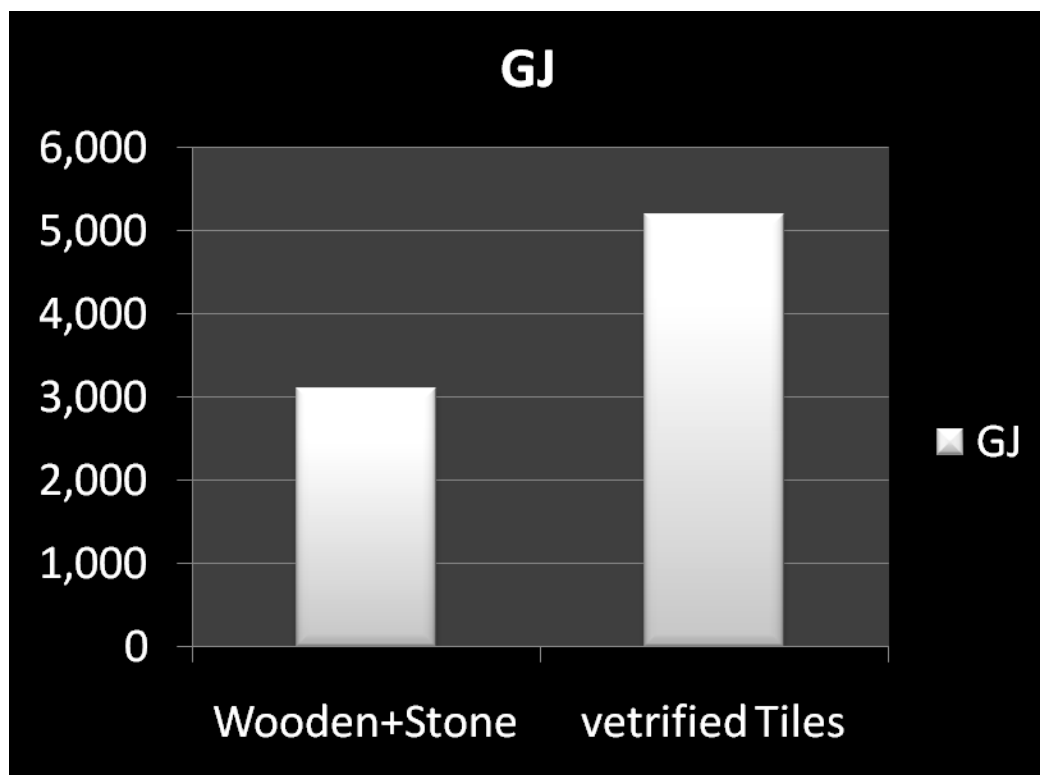
# External wall



Energy Saved  
3,000 GJ

Reduction in Co2 Emission  
780 T

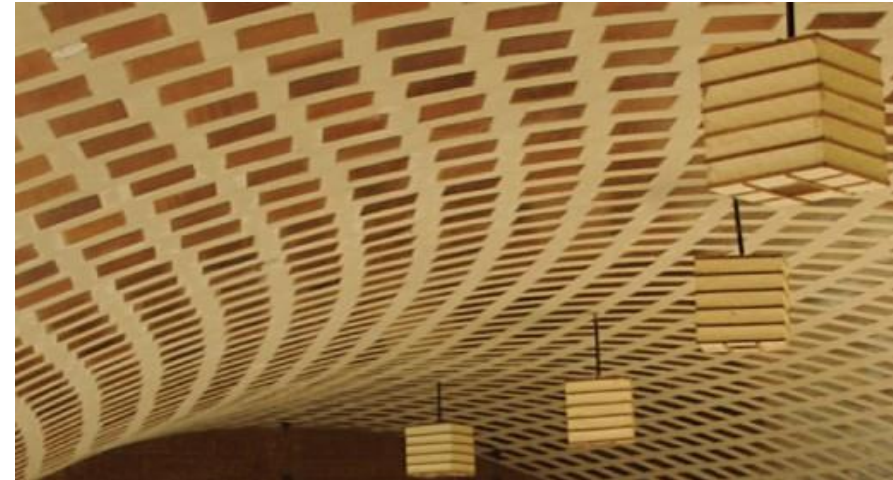
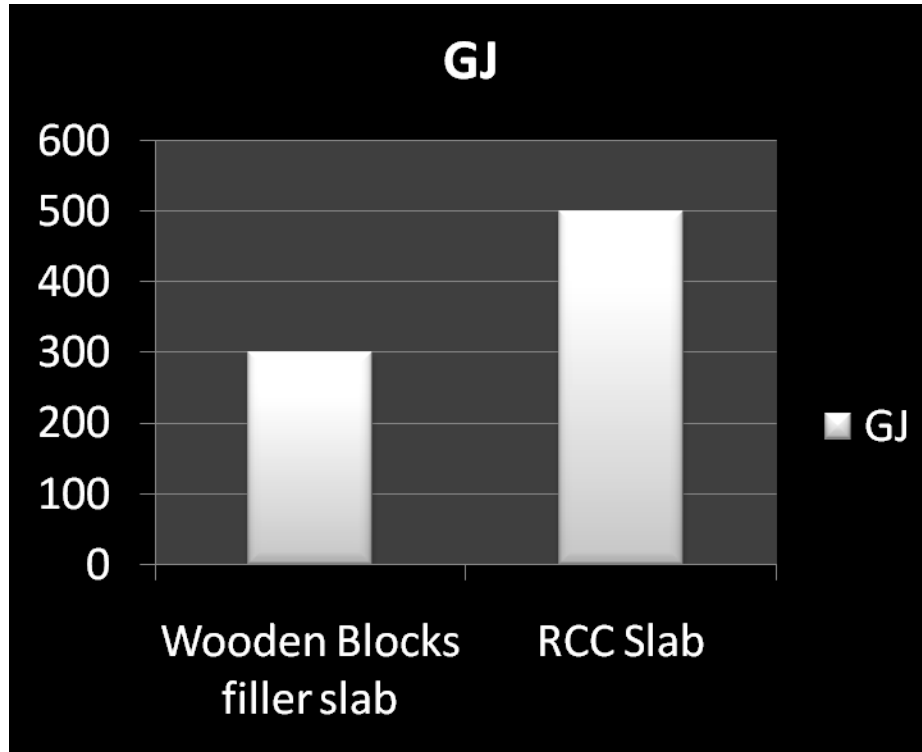
# Internal Flooring



Energy Saved  
2,100 GJ

Reduction in Co2 Emission  
600 T

# Slab

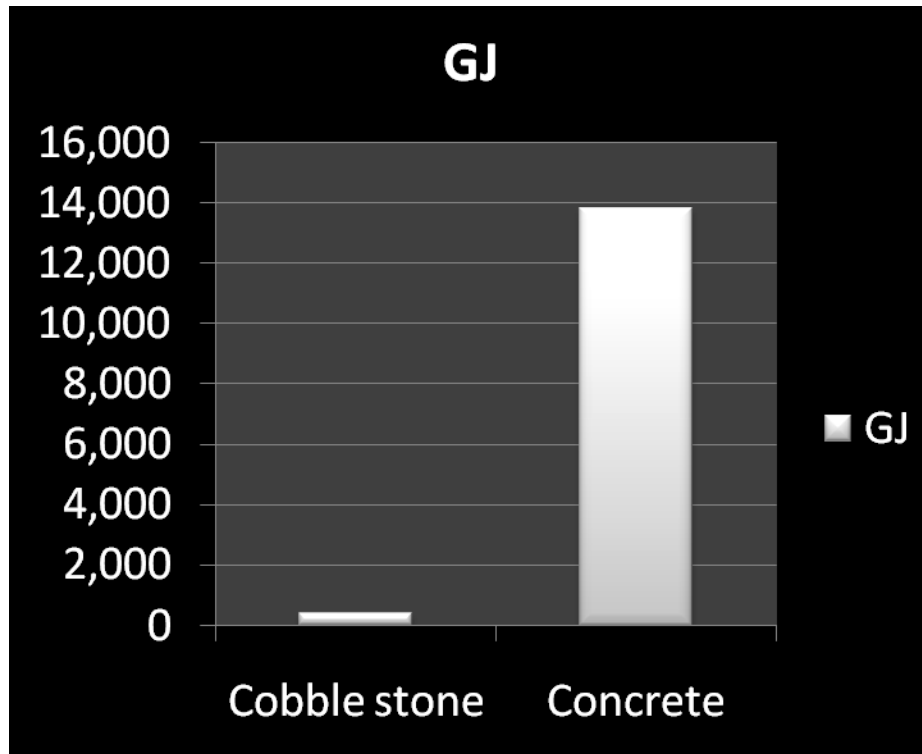


Energy Saved  
200 GJ

Reduction in Co2 Emission  
50 T



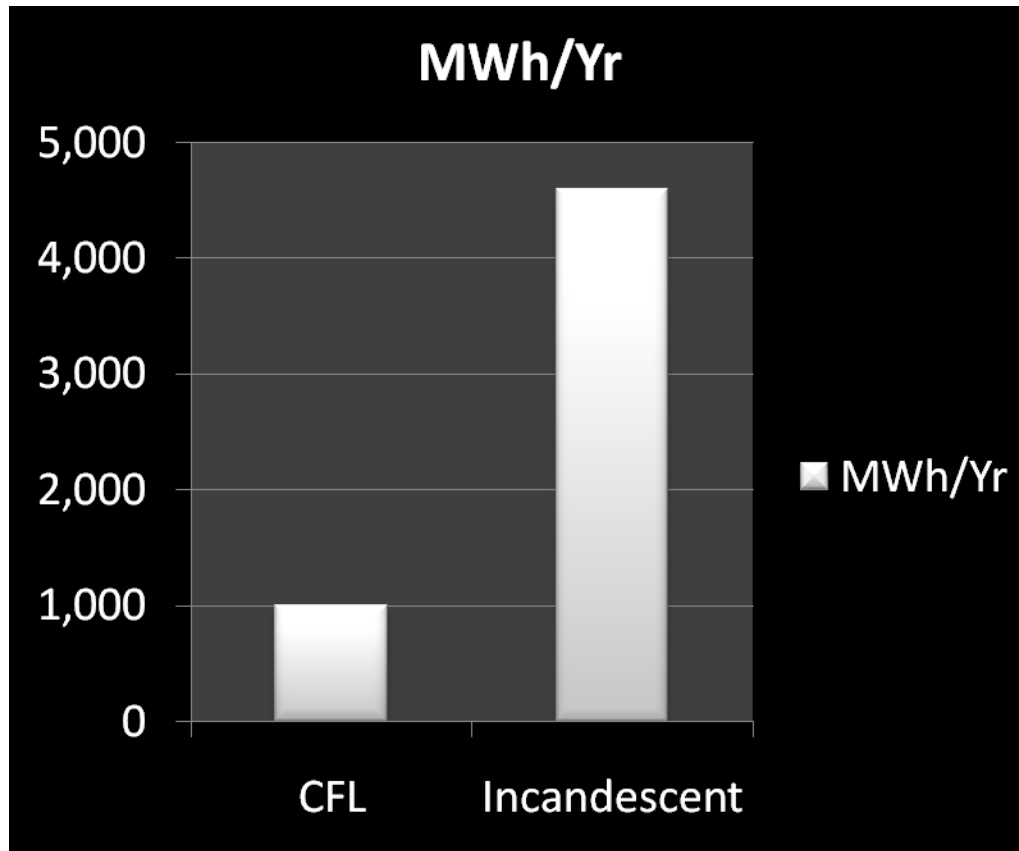
# Pathways



Energy Saved  
13, 400 GJ

Reduction in Co2 Emission  
3, 750 T

# Home lighting



Energy Saved

3, 600 MWh/Yr

Reduction in Co2 Emission

3, 750 T/Yr



Zed Collective: **72** Homes

Embodied CO<sub>2</sub> Reduction:  
1450 tons CO<sub>2</sub>

4464 tons for Conventional Homes Vs  
3015 tons for Zed Collective Homes

Operating CO<sub>2</sub> Reduction:  
885 tons per annum

1370 tons for Conventional Homes  
Vs 484 tons for Zed Collective Homes



## Zed Woods: 60 Homes

Embodied CO<sub>2</sub> Reduction:  
1520 tons CO<sub>2</sub>

4771 tons for Conventional Homes Vs  
5255 tons for Zed Woods Homes

Operating CO<sub>2</sub> Reduction:  
473 tons CO<sub>2</sub>/annum

740 tons for Conventional Homes Vs  
265 tons for Zed Woods Homes



ZedEarth: **156** Stand alone  
Homes

Embodied CO<sub>2</sub> Reduction:  
**6994 tons CO<sub>2</sub>**

17,264 tons for Conventional Homes Vs  
10,270 tons for Zed Earth Homes

Operating CO<sub>2</sub> Reduction:  
**3773 tons CO<sub>2</sub>/annum**

5685 tons for Conventional Homes Vs  
1912 tons for Zed Earth Homes





# Mission City Forests

# Seedball Distribution



# Carbon Sequestration

Number of seed balls distributed so far: 4.5 million

Carbon sequestration by trees (last 10 years): 7.2 Million tons.

Carbon emission reduction [10 years]: 60,000 t.

Source: [http://www.unescap.org/pdd/publications/apdj\\_14\\_2/6\\_Jindal\\_Kerr\\_Nagar.pdf](http://www.unescap.org/pdd/publications/apdj_14_2/6_Jindal_Kerr_Nagar.pdf)

Note: Per tree CO<sub>2</sub> sequestration ranges from 10-16 kg/CO<sub>2</sub>e/year



# Urban Farming- reaching out to 2000 households in Bangalore



Free of  
riverbed sand  
cement  
construction water  
curing

**Special pre-polymerised bonding  
adhesive**



**45 blocks/day** of  
blockwork

Vs

**20 blocks/day** of  
conventional concrete

**Engineered masonry blocks**





# The Zed atmospheric water generator

Converts water vapor into  
potable water



# Zed vertical wind mast

Generates electricity using wind power



Zed compact water  
treatment plants  
processes waste water to give  
clean water.



Zed offers energy-efficient ACs in Portable and split formats at 0.8 to 2 tons capacity



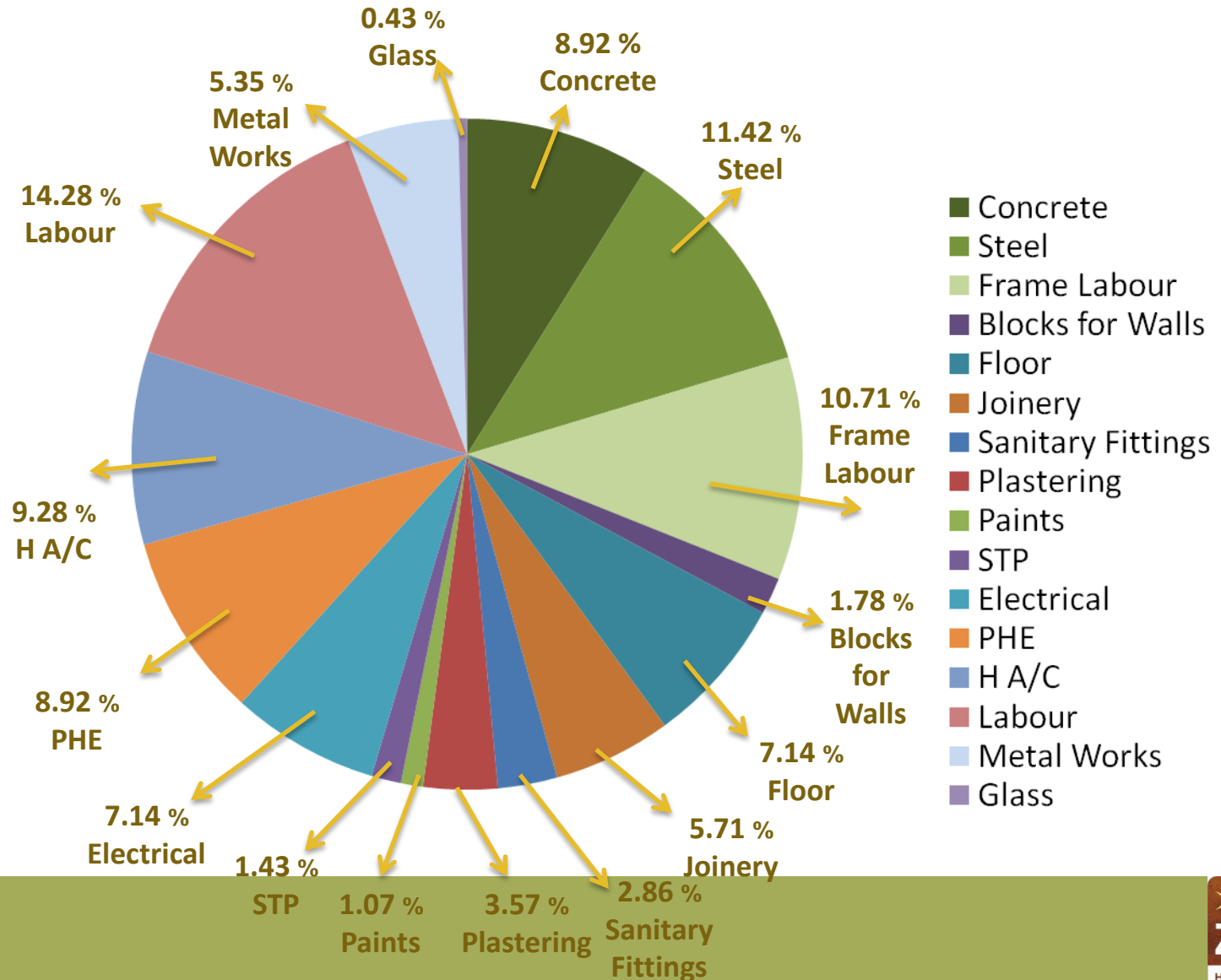
## FUEL CELL

A zero-pollution, compact, electricity generating unit, using active fuel sources of Hydrogen and Ethanol.

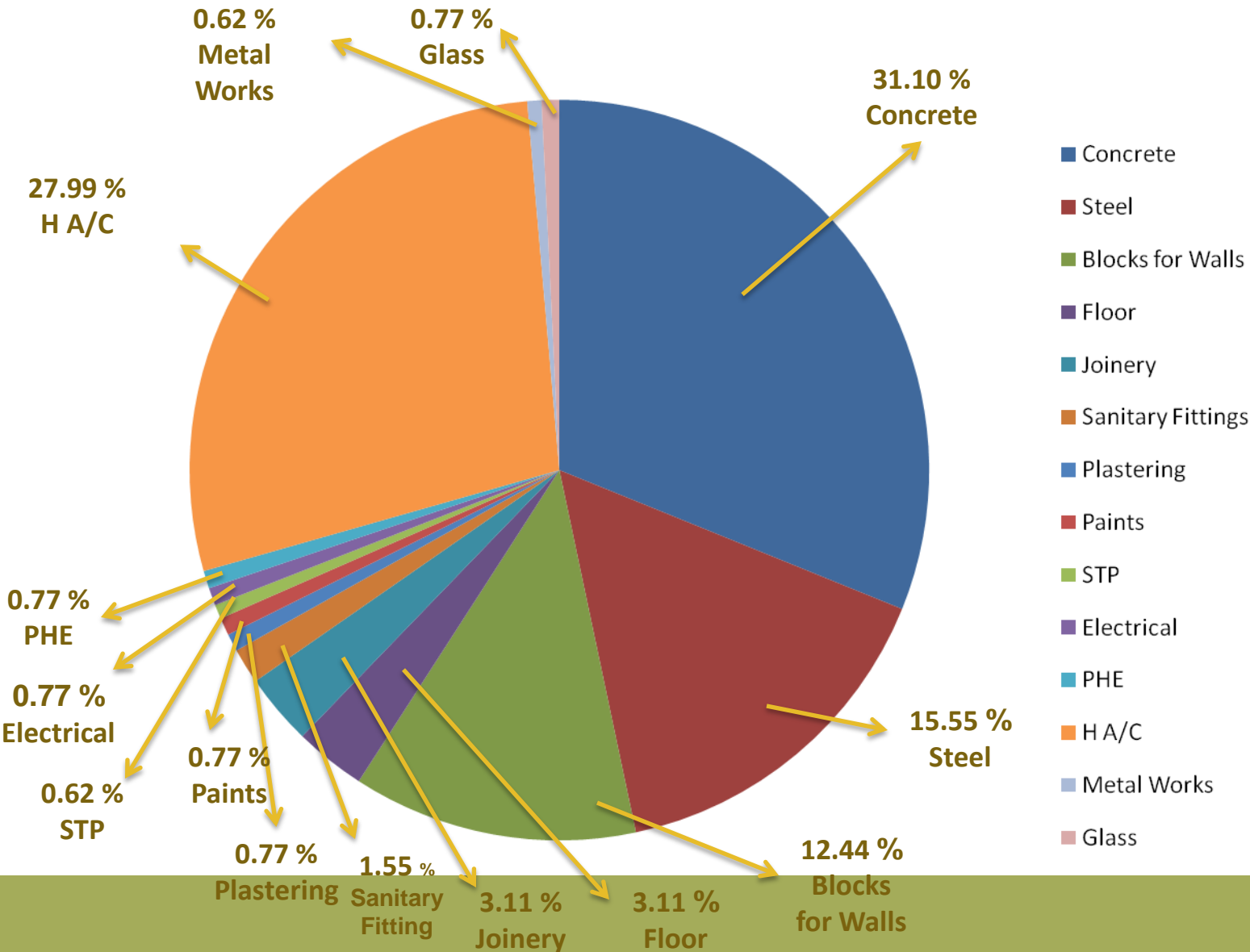


# COST ANATOMY

## - Project Cost Terms



# Carbon Ton Terms



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