



SCAD URBED Eco Home, TIRUNELVELI

IGBC PLATNUM RATED GREEN HOME

SUSTAINABILITY DESIGN ANALYSIS

by

Girish R Visvanathan

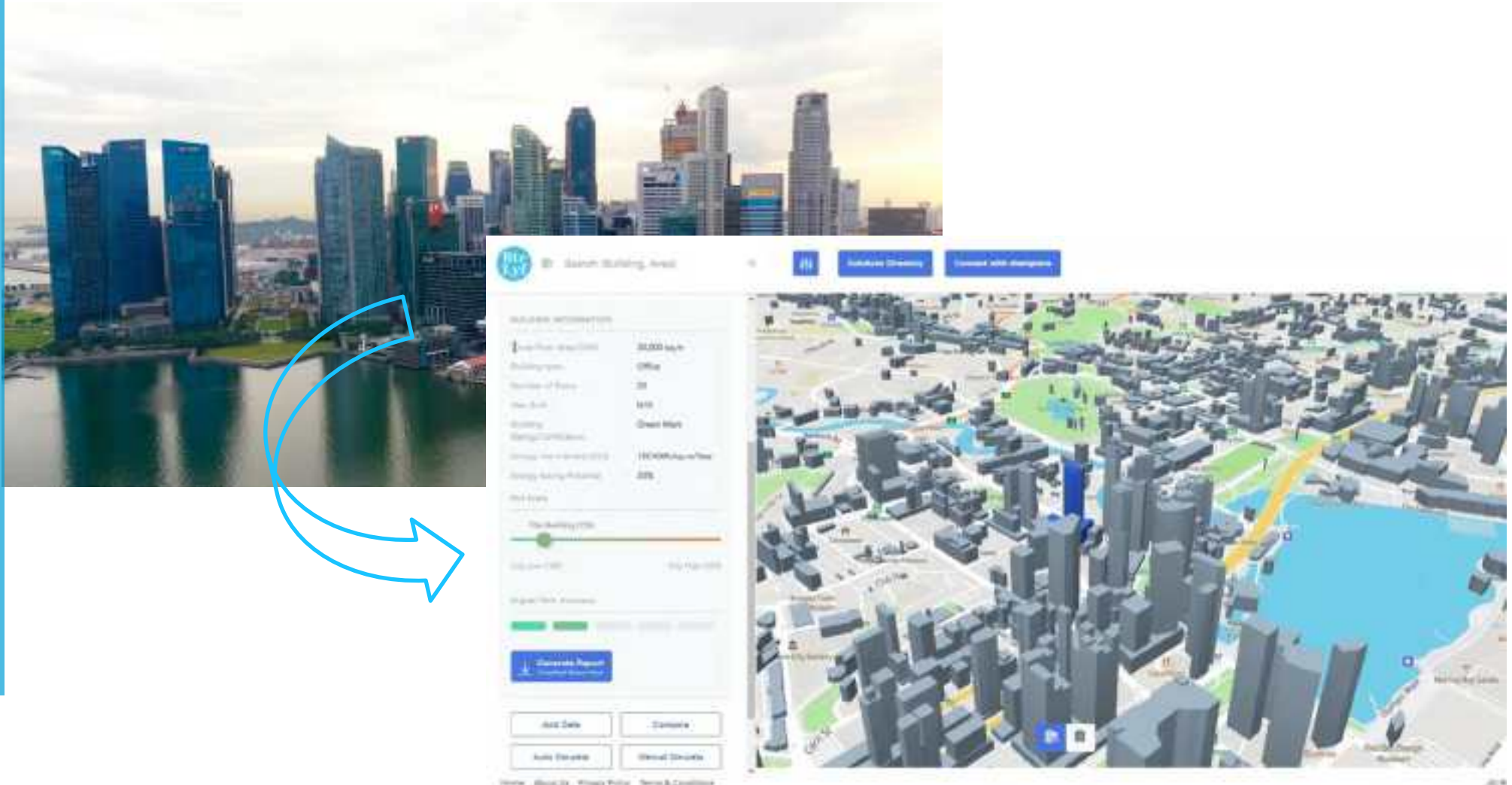
HEAD R&D/Tech, Qi Square Pte Ltd.



Interface: Open Cloud-based Collaboration

What if you
could
ASSESS
ANY
BUILDING
ANYWHERE,
ANYTIME,
Instantly at
super-low costs

▶ **Creating Digital Twins of entire cities**

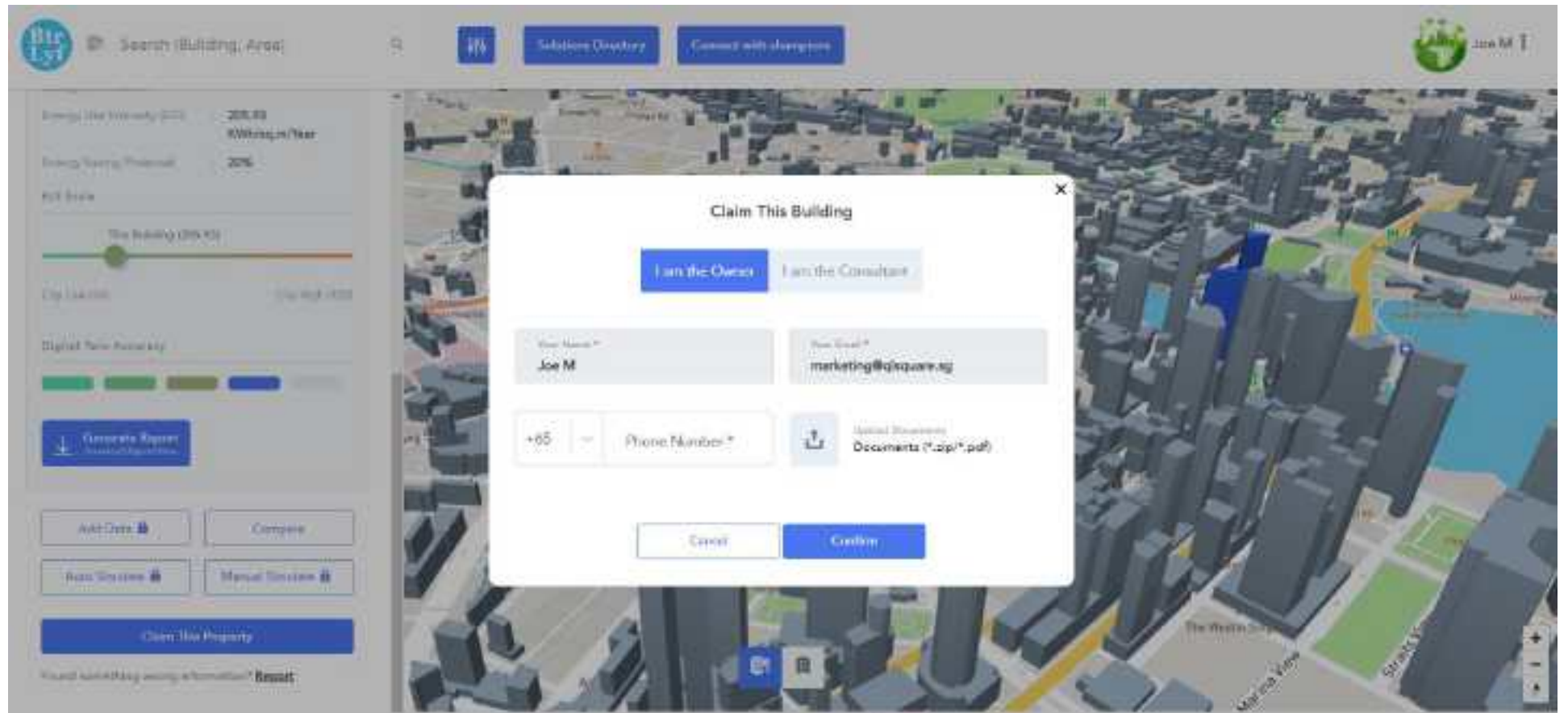




Interface: Open Cloud-based Collaboration

- ▶ Easily connecting stakeholders to each building digital twin

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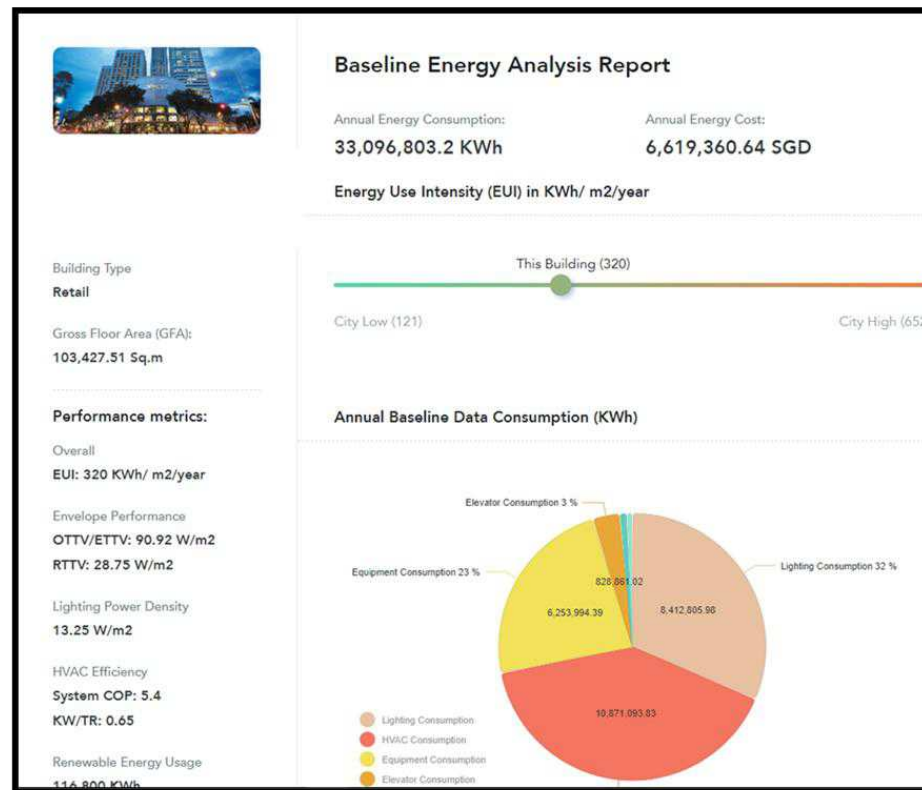




Interface: Open Cloud-based Collaboration

► Generating instant reports that can be shared with all stakeholders

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05-08-2021 Pending

27.67% Savings Potential
\$7,021,428 Investment
4.8 Yrs Simple Payback

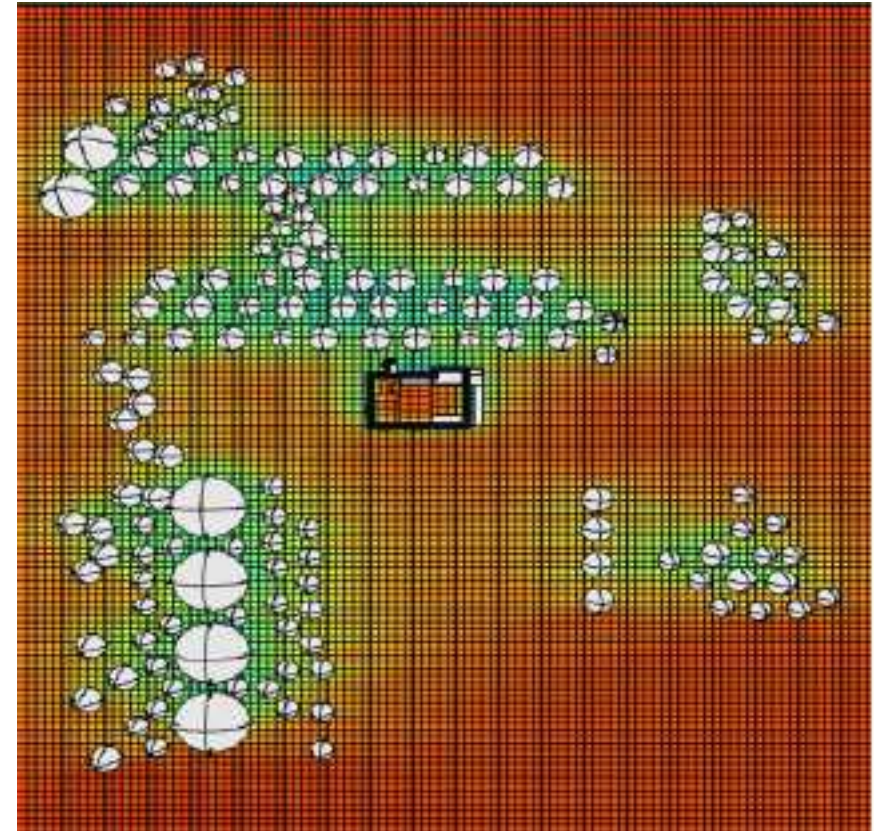
Submit to Owner Monitor Onsite

Activity	Current Value	Proposed Value	Notes/Details
Insulation	Solid Concrete Gypsum Block Plaster	Perlite Plastering	Connect to Technology Suppliers
Glazing	Double glazed plain	Tinted film - Tinted Blue	Connect to Technology Suppliers
Roof Coating	Dark Grey cement finish	Light white finish	Connect to Technology Suppliers
Light Type	CFL	LED Bank	Connect to Technology Suppliers
AC efficiency upgrade	5.40	5.4	Connect to Technology Suppliers
AC retrofit	-	VFD enable	Connect to Technology Suppliers
Lift Retrofit	-	Regenerative braking	Connect to Technology Suppliers

BUILDING PHOTOGRAPHS



HEAT MAP MODELS



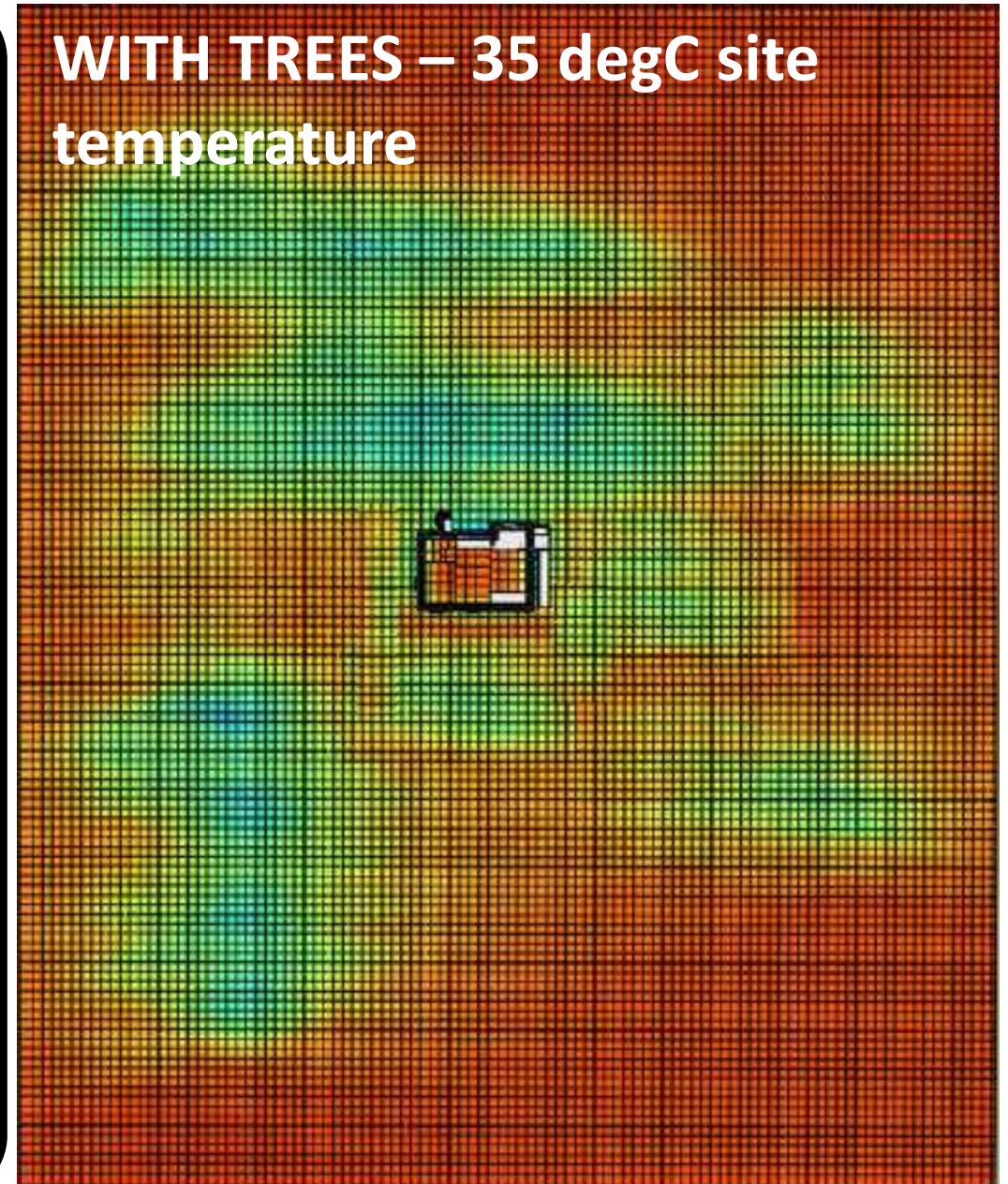
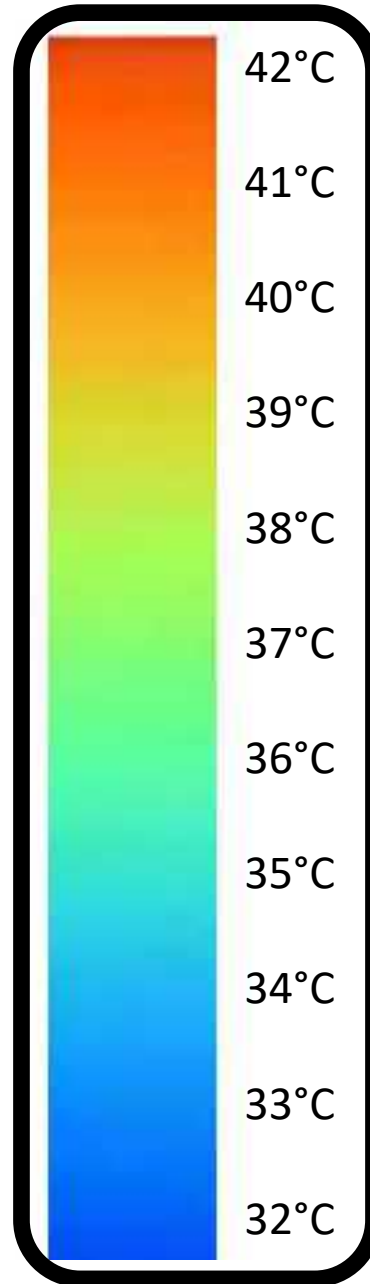
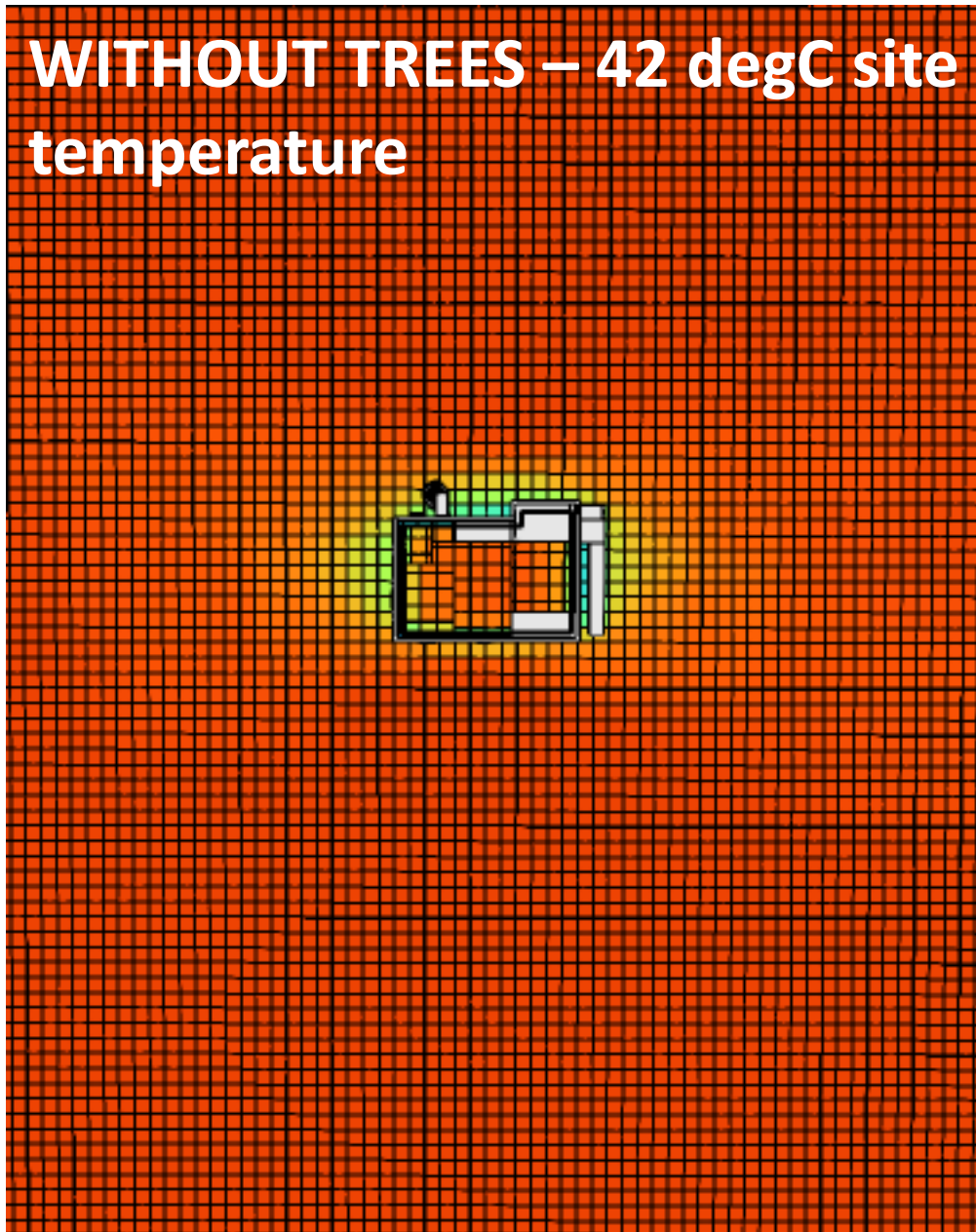
UHIE REDUCTION TECHNIQUES



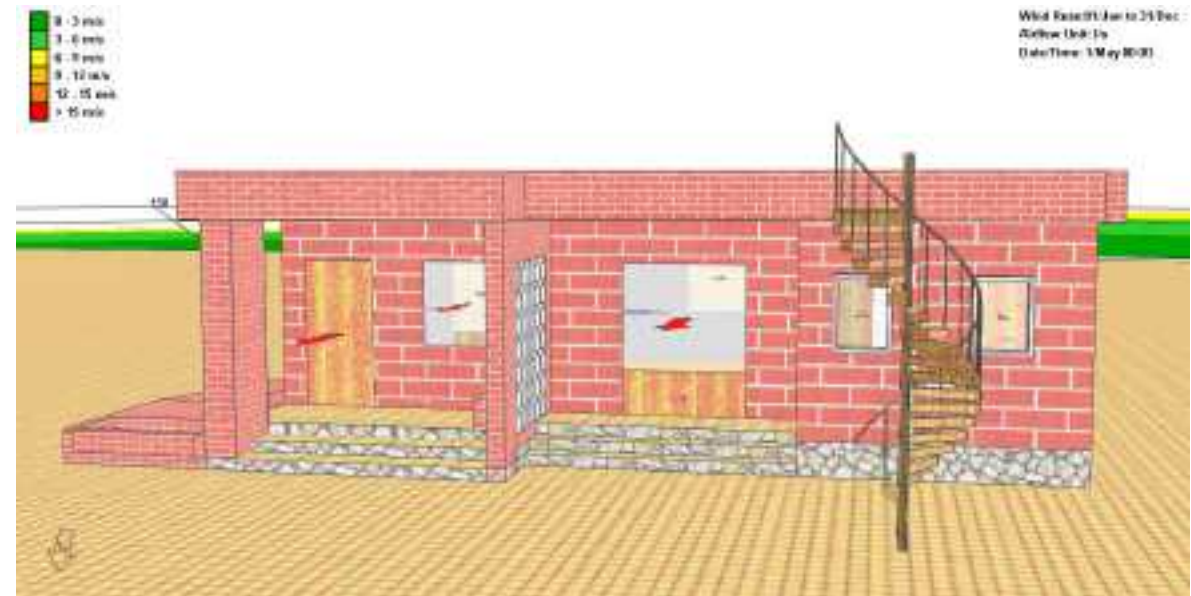
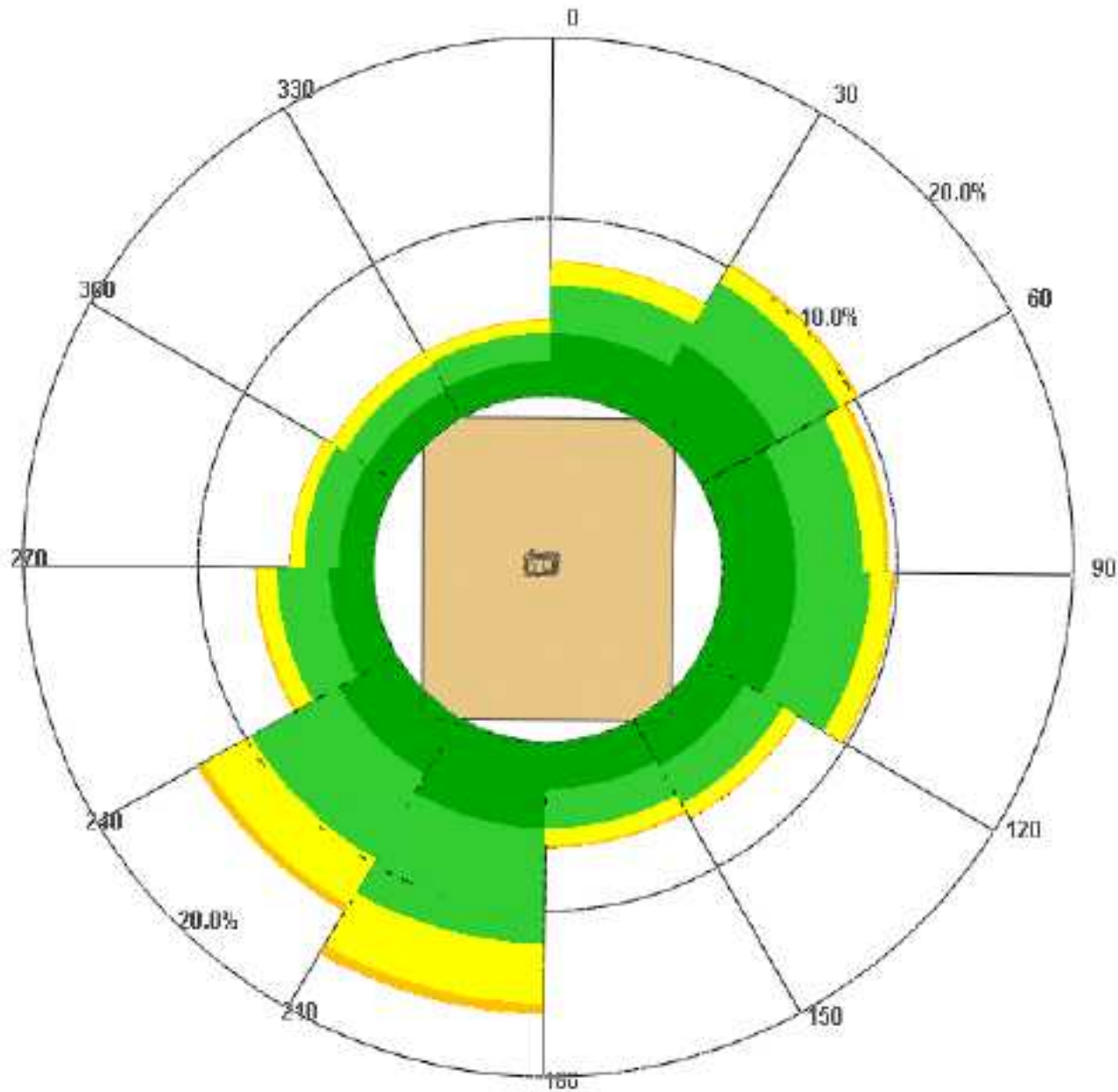
BUILDING PHOTOGRAPHS



URBAN HEAT ISLAND IMPACT ESTIMATION – PEAK DAY 8th MAY



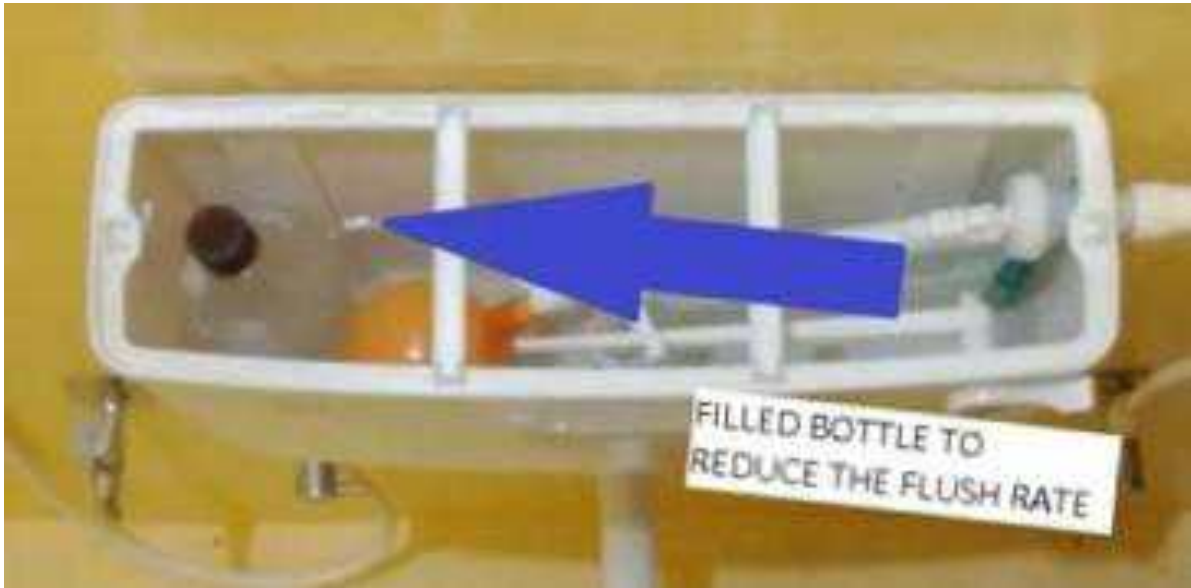
WIND DATA



Temperature data for the Window –Door Schedule

External Temperature: 38°C (May 16th 13:00) Real Feel Temperature: 42°C (May 16th 13:00)

Peak Time Temperature Data					
Month	External Temperature peak	Real Feel Temperature	Average Site temperature	Internal temperature	Air-changes (hourly Average)
January	31	32	29	27.68	22
February	32	34	30	28.12	25
March	36	38	33	30.12	27
April	36	38	34	31.32	38
May	38	42	35	31.85	40
June	34	37	33	29.25	51
July	33	36	33	29.71	51
August	33	36	32	29.30	68
September	32	33	31	29.13	49
October	31	32	30	28.67	28
November	31	32	29	27.06	27
December	30	31	28	25.51	19



1) Use of Used clay tile on Roof laying



Washing of Clay tile before use



Placement of clay tile



Filled with RCC layer



Finishing stage of ceiling

- Nearly **90% of all the material sourced for Eco-Home is locally manufactured** and thus ensuring that even during the construction the use of fossil fuels is minimized.
- This property has also **used recycled and reused material** to ensure additional resources need not be squandered.
- **Terrace cladding is done with broken tiles** which not only conserves material but also reduces the heat ingress into the building.
- Eco-friendly building materials like fly-ash based cement and blocks, recycled steel, reclaimed clay tile, fencing stone for lintel were done.
- There is no material that is wasted. For example, kitchen and garden refuse is converted into manure and entirely used in the home garden which grows flowers, fruits, vegetables.



IGBC GREEN HOMES BUILDING



Indian Green Building Council



CREDITS	POINTS AVAILABLE
Site Selection & Planning	9
Water Efficiency	11
Energy Efficiency	22
Material & Resources	13
Indoor Environment Quality	15
Innovation & Design Process	5
TOTAL	75

Certification Level	Points Required	Recognition
Certified	38-44	Best Practices
Silver	45-51	Outstanding Performance
Gold	52-59	National Excellence
Platinum	60-75	Global Leadership

POINTS STATUS

CREDITS	POINTS AVAILABLE	POINTS Achievable
Site Selection & Planning	09	09
Water Conservation	13	10
Energy Conservation	22	18
Material Conservation	13	08
Indoor Environment Quality	15	13
Innovation	5	5
TOTAL	75	63

Total Credit Points 63= PLATINUM RATING



Confederation of Indian Industry
125 Years: 1895-2020

Indian Green Building Council (IGBC)

hereby certifies that

SCAD – Eco House, SCAD Campus, Cheranmahadevi Tirunelveli

(IGBC Registration No. GH 200068)

*has successfully achieved the Green Building Standards required for
the following level of certification under the
IGBC Green Homes Rating System*

Platinum

January 2021

(This certification is valid for next 3 years)

Shorukh Mistry
Chair, IGBC Green Homes

V Suresh
Chairman, IGBC

S. Raghupathy
Deputy Director General, CII

K S Venkatagiri
Executive Director, CII-Godrej GBC





THANK YOU!