

CLEAN ENERGY CONFERENCE





SAVANNAH EAST

Savannah East
First Certified Green Building
in T&T

LEED SILVER
CERTIFICATION

LEED

Leadership in Energy and Environmental
Design

Most Internationally recognized
accreditation body for green buildings

Over 80,000 project certified world wide

Building design

Integrated TEAM Formation

- Stakeholder involvement – Owner, operator, user
- Designers – Architects, MEP's, structural
- Quantity surveyors
- LEED AP
- Commissioning Authority

Aim of Integrated team is to deliver a building which achieves the Triple Bottom line of Sustainability

- Planet - Environmentally responsible
- People - Social responsibility
- Profit – Economics of Investment

Energy Efficient Design

Building Envelope

- Insulated Roof –
 - 3” of poly-isocyanurate(insulation) board
 - 4” of soil for landscaping(soil insulation)
- Insulated walls – 6” of R8 insulation
- Windows – double glaze, Low e value



Energy Efficient Design HVAC System

- Variable Refrigerant Flow (VRF) system Vs Chilled Water system
VRF – 8 to 12% more energy efficient and it cost the same to install.
- Enthalpy wheels– Exhaust air from the washrooms were used to temper the fresh air entering the building.
- A BMS system monitors and controls the VRF system to optimize energy usage.

Energy Efficient Design Lighting System

- All lighting fixtures are LEDs.
- Occupancy sensors are installed
- Over 50% of each office level have acceptable levels of day lighting .
- The BMS monitors the building occupancy level and controls the lighting accordingly.

Energy Efficient Design

Renewable energy

- 20 KW Photovoltaic system installed (no batteries)
- Generates between 90 to 130 KWh per day
- System has been installed for 10 months and it has surpassed 24 MWh of power generated to date
- System is tied to Building grid which uses all the power generated. There is zero feedback to T&TEC.
- System generate about 4% of the Building's Energy

Energy Efficiency Commissioning

- Pre- requisite in LEED
- Commissioning process – A very detailed process where the building performance had to meet the design
- Understanding that the Commissioning process starts the project with the OPR and BOD.

PERFORMANCE

- ENERGY

Annually Energy usage 863,000 KWh

Annual Renewable generation 37,000 KWh

Savings over a Conventional Building(ASHRAE 90.1)

23.6%

PERFORMANCE

- WATER USAGE Annually

Convention Building(IPC)

612,000 gallons

Savannah East Fixtures

480,000 gallons

Savings

21.6%

THINK GREEN



THANK YOU

Devanand Ragbir