

Presentation on

# Energy Cost Reduction for Profit Maximization



Presented by:

Milind Chittawar, CEA, AEA, CMVP  
CEO

SEE-Tech Solutions Pvt Ltd

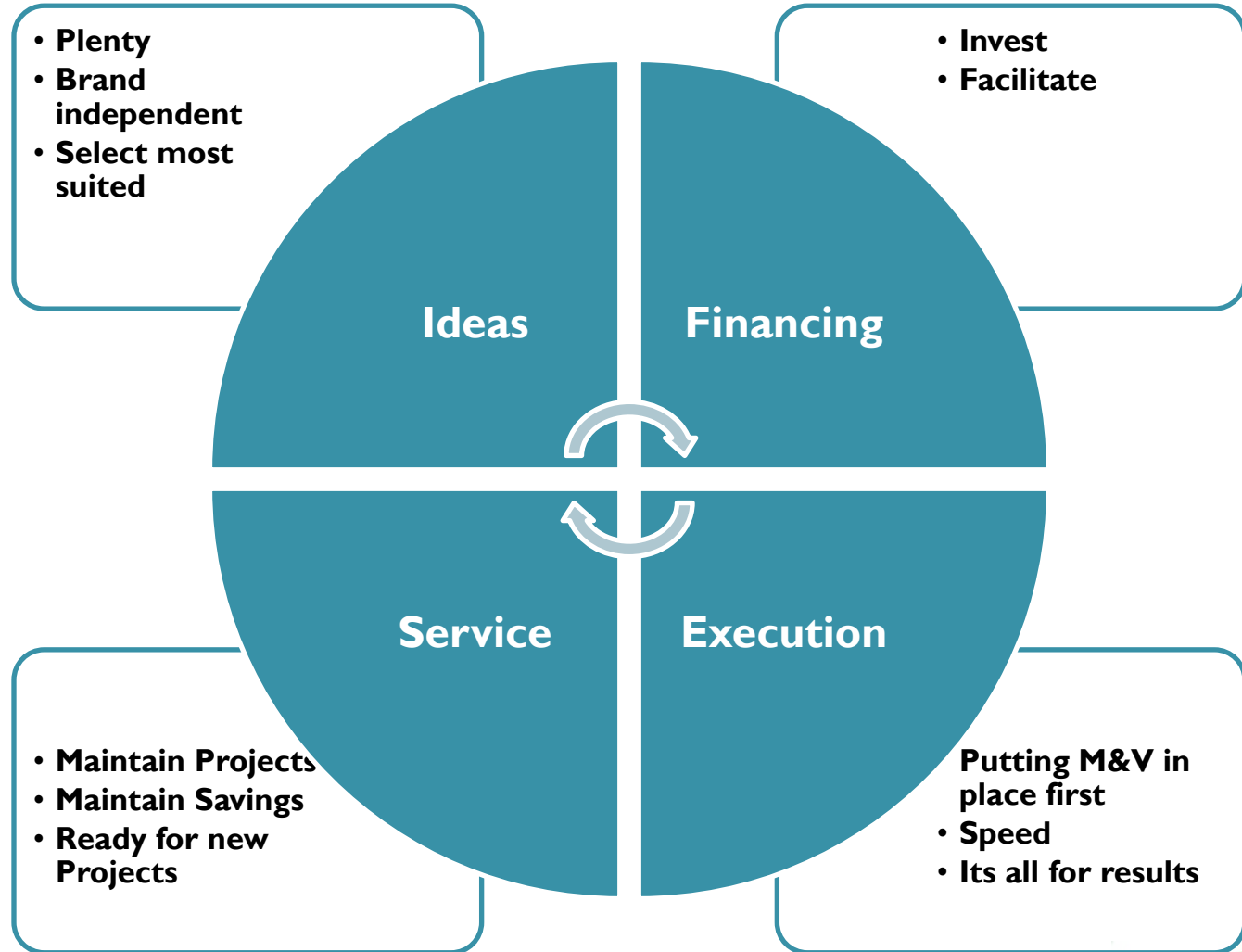
[milind.chittawar@seetechsolutions.in](mailto:milind.chittawar@seetechsolutions.in)

09422145534

# About SEE-Tech Solutions

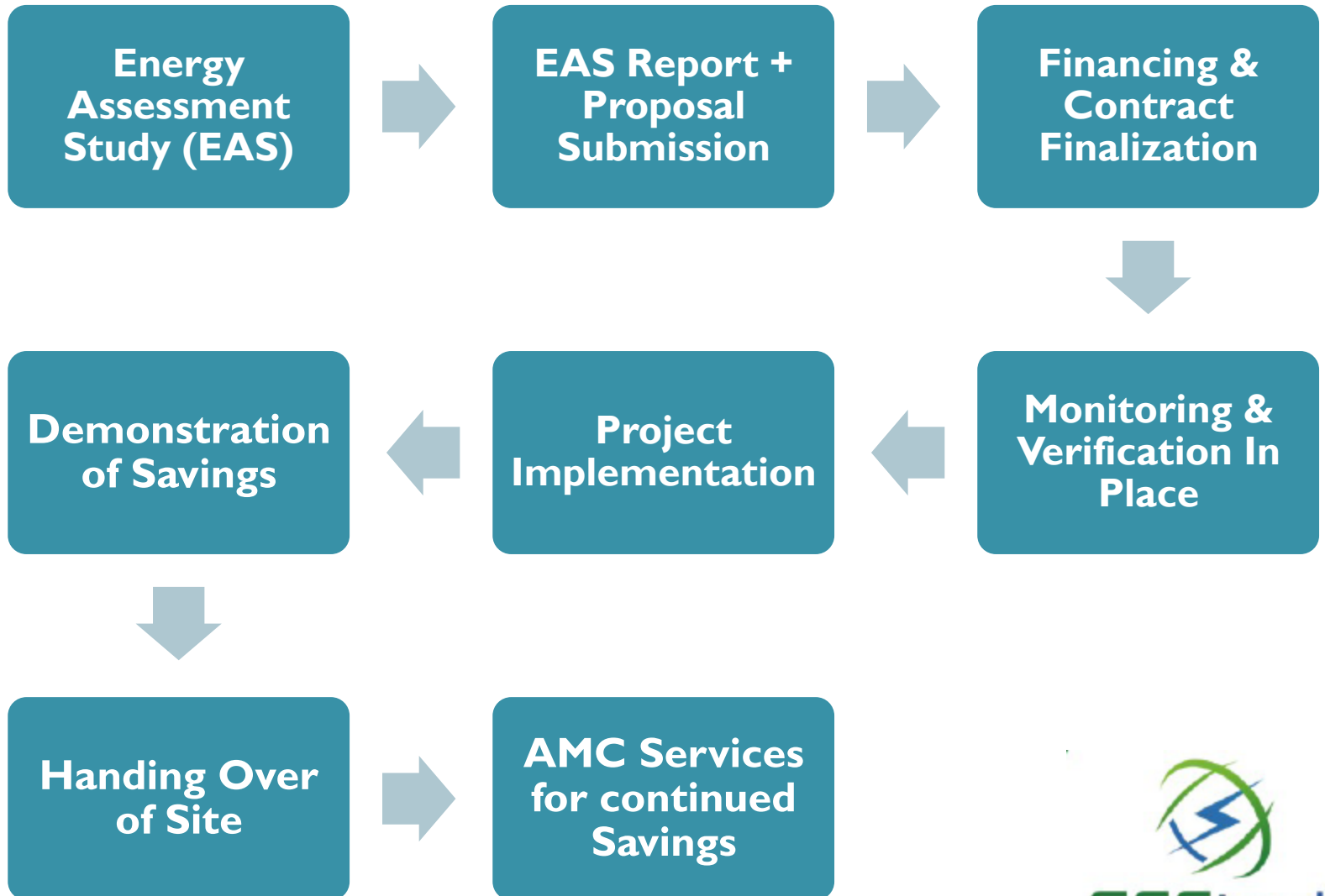
- An ESCO, Accredited By Bureau Of Energy Efficiency (BEE): as “Grade-2”
  - Carried out more than 500 Assignments in the field of energy conservation since last 20 years
  - Winner Of Association Of Energy Engineers (2013)
  - Award for excellence in energy conservation and management
  - Delivered Guaranteed Savings through Proven and Tested Ways
- ✓ **We are on Mission to deliver 20% savings in Energy Cost**
  - ✓ **No product/brand representation**
  - ✓ **One stop solution**
  - ✓ **Environment Friendly Solution**

# SEE-Tech's Model for Energy Cost Reduction\*

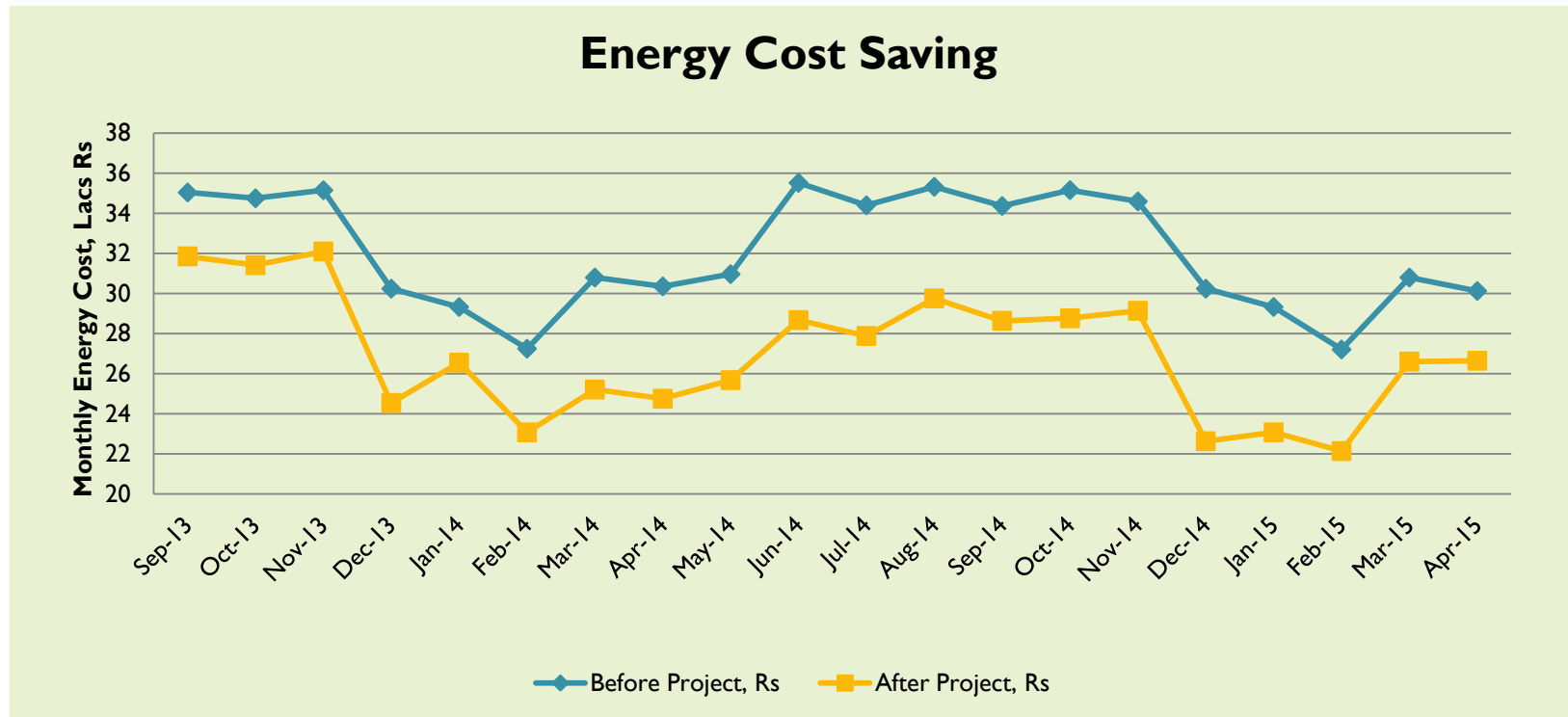


\* Sustainable Energy, Environmental & Technological Model for Energy Cost Reduction

# Our Approach:

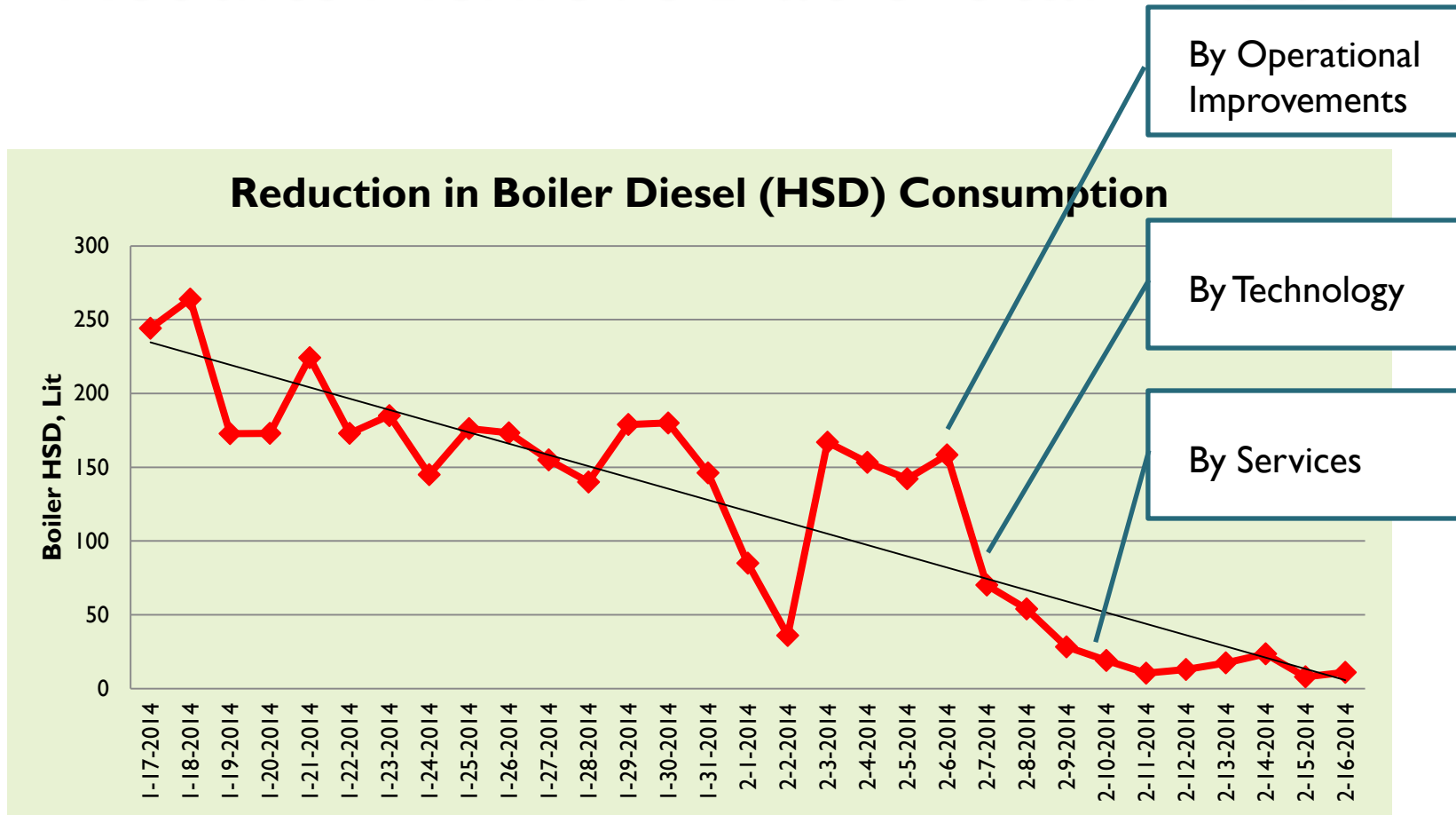


# Results Achieved at 5 Star Hotel

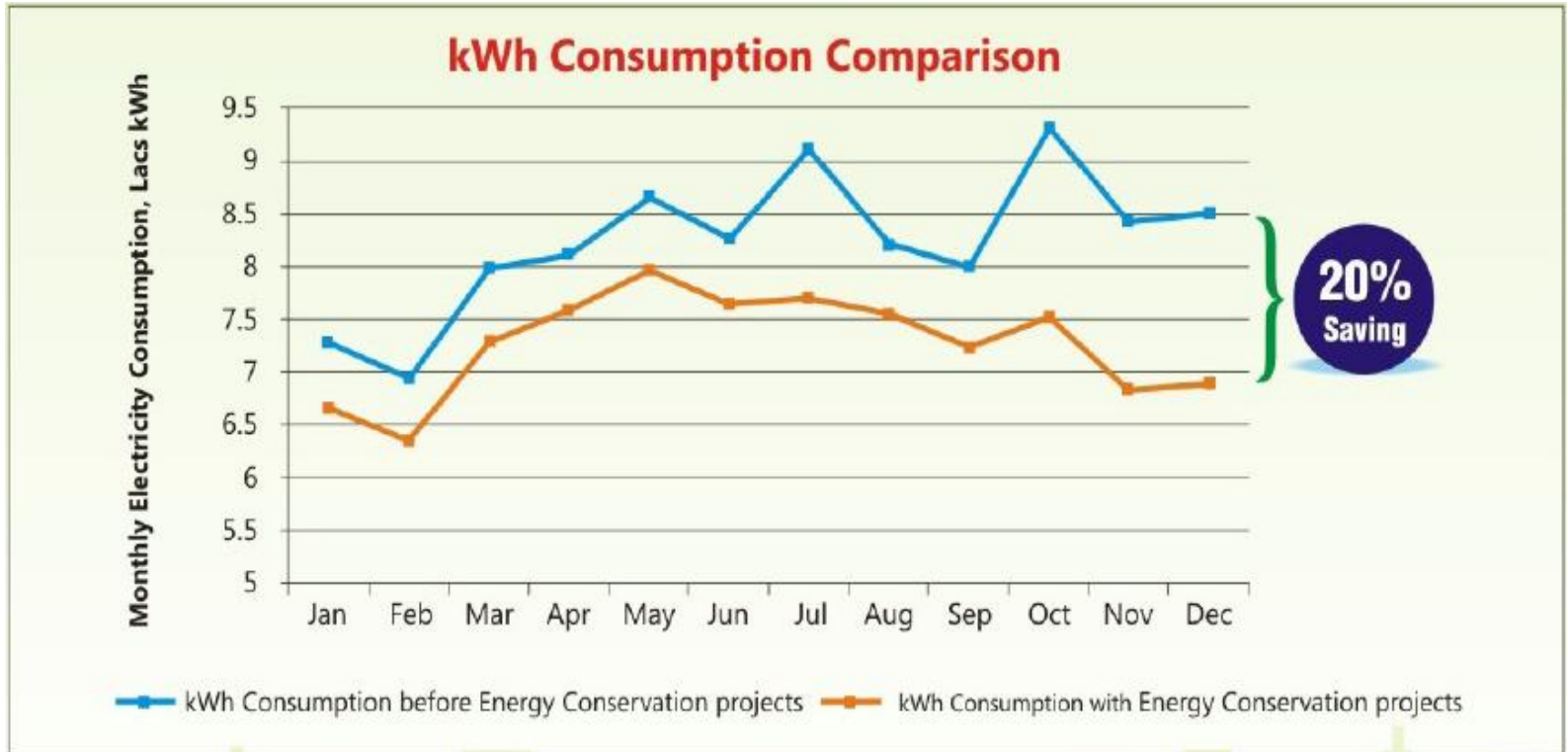


**Delivered 16% Saving in Energy Cost**

# Results Achieved at 5 Star Hotel



# Results Achieved at Commercial Building



# Likely List of Energy Conservation Projects

1. Reactive Power Management
2. Performance optimization of Air-Conditioning
3. Building Heat Load Reduction
4. Performance improvement of Air Cooled Condensers
5. Energy Efficient Lighting
6. Installation of Voltage Stabilizers
7. Repair and Maintenance of Cooling Towers
8. Installation of Dynamic Chiller Controller



# Likely List of Energy Conservation Projects

9. Installation of VFD on AHUs
10. Operational Optimization in Cooling Towers
11. Optimizing use of Diesel Consumption in Hot Water Generator by Installing Heat Pump
12. Optimizing use of Diesel Consumption in Steam Boiler by Installing Electrical Equipments

# Photographs of Implemented Energy Conservation Projects

## I. Reactive Power Management



# Photographs of Implemented Energy Conservation Projects

## 3. Building Heat Load Reduction



# Photographs of Implemented Energy Conservation Projects

## 4. Performance improvement of Air Cooled Condensers



# Photographs of Implemented Energy Conservation Projects

## 5. Saving by Installing EE lighting



# Photographs of Implemented Energy Conservation Projects

## 6. Installation of Voltage Stabilizers



# Photographs of Implemented Energy Conservation Projects

## 7. Repair and Maintenance of Cooling Towers



# Photographs of Implemented Energy Conservation Projects

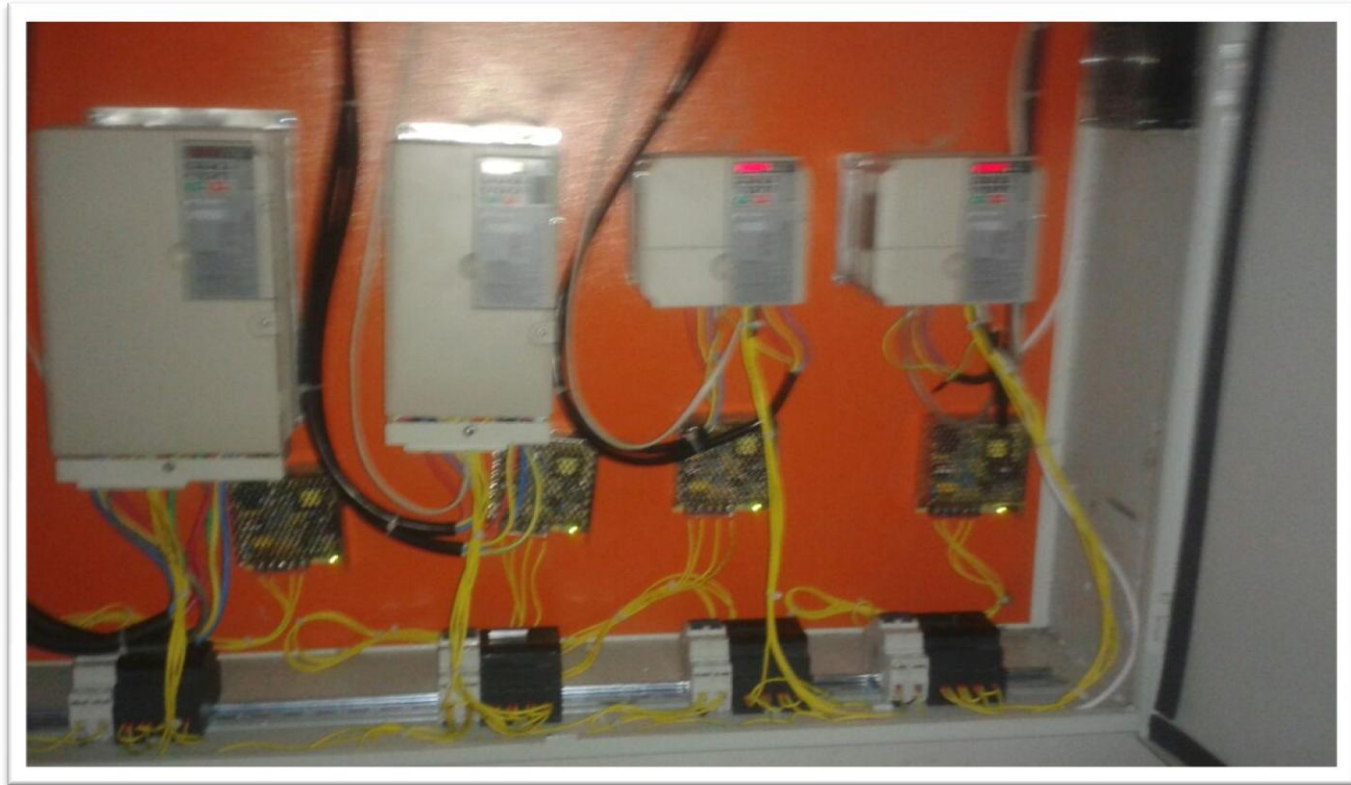
## 8. Installation of Dynamic Chiller Controller





# Photographs Of Implemented Energy Conservation Projects

## 9. Installation of VFD on AHUs



# Photographs of Implemented Energy Conservation Projects

## II. Optimizing use of Diesel Consumption in Hot Water Generator by Installing Heat Pump



# Photographs of Implemented Energy Conservation Projects

## 12. Optimizing use of Diesel Consumption in Steam Boiler by Installing Electrical Equipments



# Why Holistic Approach?

- Focus is on Savings, not project or products
- One Stop Solution- Total Integration of Product, Project & Services for long term
- Transparent Measurement & Verification (M&V) Systems (Graded by BEE, MoP- Highest body in the country on EE)
- Services based ESCO do not represent any Brand
- Access to almost all Technologies
- EE Specialist, Expertise for delivering Energy Cost Savings

# Why Holistic Approach?

Particulars	Internal Efforts	Initiatives of Energy Efficient Equipment Vendors	Recommendations of External Energy Auditors	ESCO
Energy Cost Savings without Investment	√	☒	☒	√
Reduced Risk	☒	☒	☒	√
Guaranteed Minimum Savings	May be	May be	☒	√
Savings, M&V	May be	May be	☒	√
Solutions to Obstacles & Unknown issues	May be	May be	☒	√
Long Term Engagement	☒	☒	☒	√
Holistic Approach	☒	☒	May be	√

# Issues need to be addressed in Performance Contracting

- Proper Base Line
  - Last one year before project Implementation
  
- Monitoring & Verification
  - Addition & Deletion of loads
  - Increase & Decrease in Occupancy
  - Increase & Decrease in usage hours of Banquettes, Halls & persons...
  - Effect of outdoor Temperature

# Improved approach of Monitoring & Verification

- M&V will be based on IPMVP principles which are accepted worldwide

<http://www.nrel.gov/docs/fy02osti/31505.pdf>

- Use of regression equation to accommodate variables as listed in previous slide

# Next Steps...

- Collection of required data
- Conducting Energy Assessment Study (EAS)
- Analysis
- Discussion of EAS Report & Our proposal
- Contract Finalization
- Project Implementation
- Demonstration of savings



# Thank you....

Milind Chittawar, CEA, AEA, CMVP  
CEO

SEE-Tech Solutions Pvt Ltd

[milind.chittawar@seetechsolutions.in](mailto:milind.chittawar@seetechsolutions.in)

09422145534

