



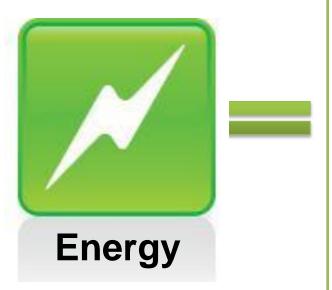
Reducing Cost Of Energy:
Strategies & Solutions

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$E = MC^2$













The Hot Topic

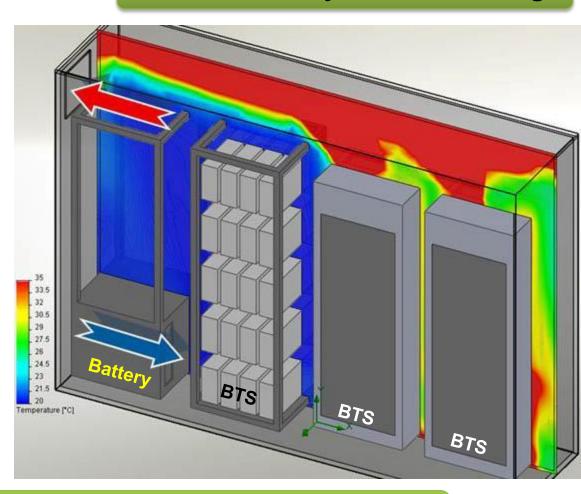


It is about Heat Management

not necessarily air conditioning



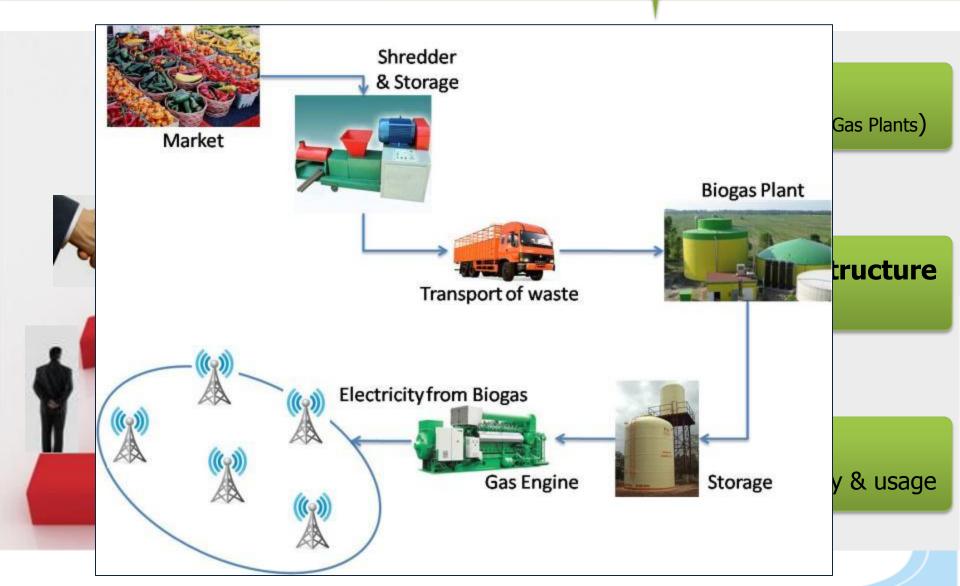
 $29^{\circ}C \pm 2$



BTS can work in the "outdoor" mode very well

Mission SHARING





Conversion Loss is a waste





Harness
in-extinguishable sources
even when conventional
ones are available







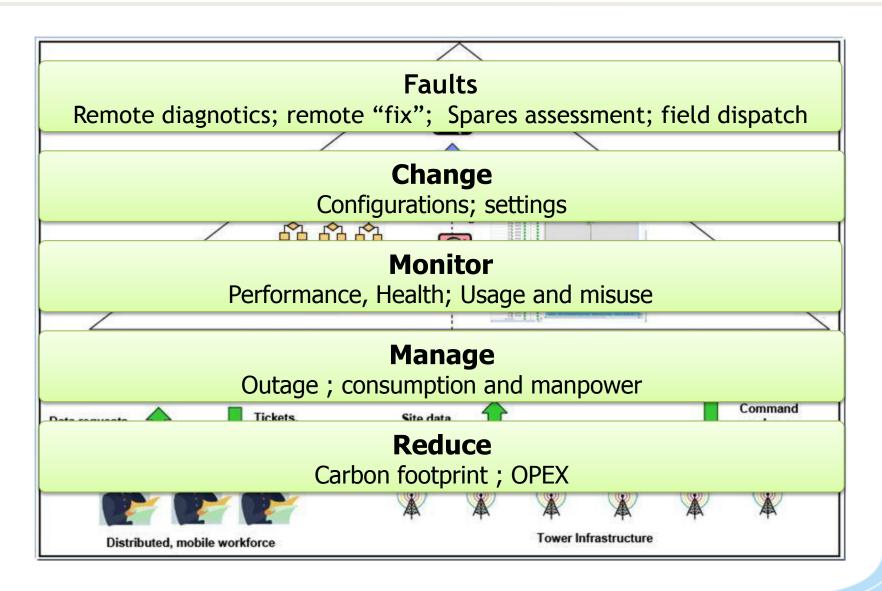




Use most Cost effective energy source available to serve the load - DG the last resort

What's going on out there !!

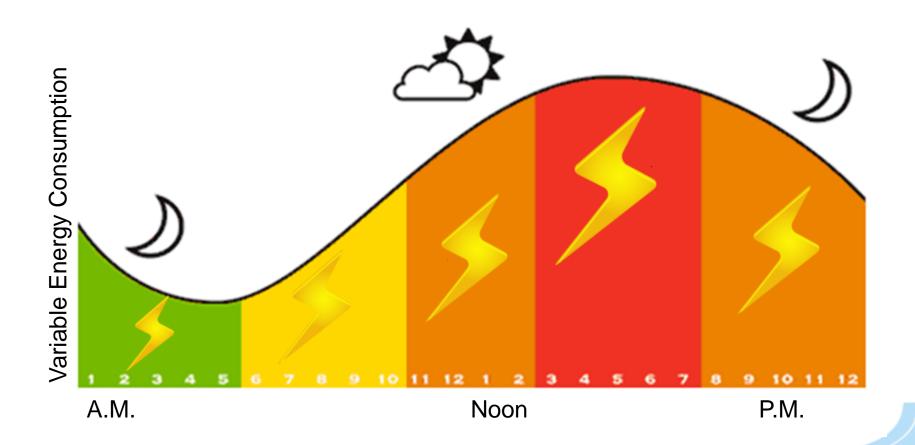




Change with the *Times*



- Energy need of equipments change through the day
- Logic to use the best source for the most critical time



It's Man that makes the difference



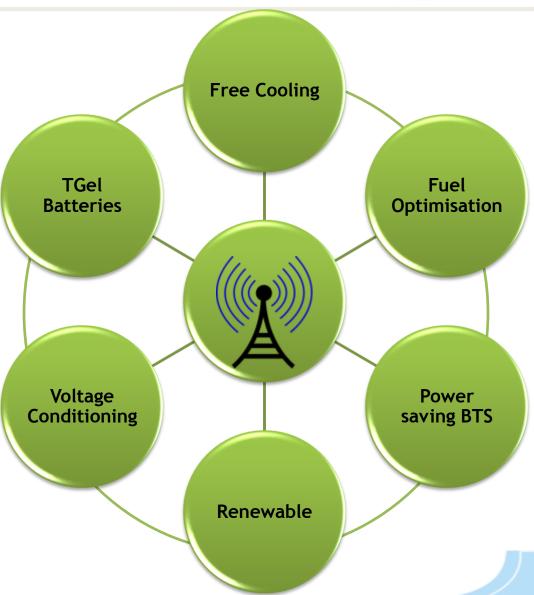


Energy Saving at telecom tower



Deploy an engineered energy solution, not just individual products

Analyse cumulative effect of energy saving equipments on each other as well as on active & passive loads



Energy Solution Must Haves



Not only reduce consumption - sustain & improve delta

- Energy saving device is not a magic box
- New energy devices must be supported by upgrade of related ancillary equipments
- Devices must work in tandem for the solution to improve the resultant vector

Scalable & support growth while ensuring savings

- New fast changing energy technologies -- Should be scalable
- Flexibility to incorporate newer equipments
- Evolve to meet regulatory requirements

You cannot manage what you cannot measure

- Energy score card
- Fault detection diagnosis
- Remote Performance Management

Strategies for energy management



Inhouse Energy Management

- Ability to evaluate solutions & products in labs
- Manageability: Product capabilities vs costs
- Time consuming debate: engineering vs finance



Fully outsourced Model

- Vendor & technology agnostic model
- Across operators, tools & people
- Commitment on deliverables
- Risk gets shared

Outsourced Consultancy

- Operator invests in energy management
- Recommendations of independent consultancy
- Consultancy firm does not benefit by the sale

Engineering Solutions on Energy



Combined Engineering
Output

Smarter Operations & Maintenance Processes



Cohesive Remote Management

Powerful model brings innovation to telcos

Agile Operations

Complete operational harmonization of different products.

Unified and Synchronous Commitment

Over all commitment KPI and SLA based

Profitable Business

Guaranteed reduction in OPEX that increases profit