Electricity Consumption Analysis of IITB

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Background and Motivation

- Peak Consumption a menance
  - Consumer
  - Producer
- Existing solutions
  - Focus on individual Buildings.
  - Scheduling Appliances etc.

Problem statement

Prove or Disprove the following conjecture:

As we aggregate consumption profiles of different buildings of an organisation, the overall profile flattens by the virtue of variety of constituent profiles.

Proposed solution

- Fetching consumption profile on a minute to minute basis for each building.

- Cumulatively adding and building consumption profile for the whole campus.

- Identifying peaks and troughs, and also the building contributing to same.

Deliverables

- March 20:
  - Feasiblity analysis of capturing meter readings.
  - Monitoring feasibility among various buildings.
  - Literature Survey
- April 2:
  - A system in place for monitoring constituent buildings.
- May 3:
  - Statistical comparison of main power and kresit readings.
    - Identify peaks and troughs.

Challenges

- Monitoring multiple profiles using limited smart meters.

Conclusion

- Peak flattening can save substantial amount of energy if applied on the scales of big organisations such as IITB campus.

- Peak Shaving

  – Focus on campus as a whole.

  – Rather than individual buildings.