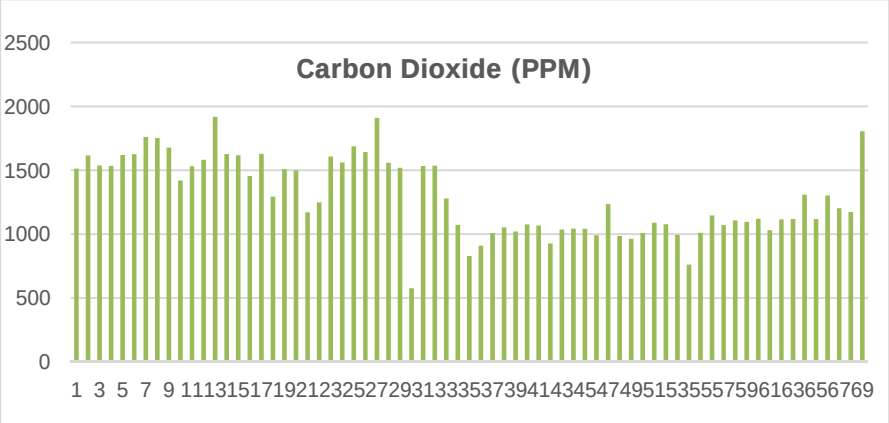
Case Study: **Indoor Air Quality Audit: Carbon Dioxide (CO_2)**

SENERGY Consultants (P) Ltd

Background:

While conducting energy audit for the office premise; the carbon dioxide contents were observed to be considerably higher than the general norm (1000 PPM) at quite a few places.



Note:

The performance of human being can get affected if the carbon dioxide contents is more than 1500 PPM; due to drowsiness, lethargy, and a general sense that the air is stale.

Scenario:

The system comprised of

- Centralized air conditioning system with Air Handling Units (AHUs) for the individual locations / floors.
- The individual AHU rooms were provided with a fresh air opening with a damper
- The fresh air dampers of many of the AHUs were observed to be closed as an energy conservation measure
- This lead to substantial increase in carbon dioxide contents in many of the rooms / locations

Improvement Measures:

The above concerns and issues were addressed by taking the following measures.

- Readjusting the fresh air dampers to maintain carbon dioxide contents below 1000 PPM for human comforts
- The possibility heat recovery through centralized fresh air and exhaust air system was analyzed, but found to be economically unviable and difficult to implement.

Outcome:

- Comfortable indoor air quality, at slightly higher energy consumption

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