

Reduce Your  
Carbon Footprint...Save  
Your Energy!  
Probability



**PV Vacuum Engineering Pte Ltd**  
(A member of Darco Water Technologies Limited)



## Resource Optimization

Housing keeping is a necessity task for all industries especially those that put an emphasis on product quality, safe work environment and production yield.

It is always easy to know how many users or production operator or cleaners will need access to such a utility. In fact, most system especially smaller system are designed based solely on this, which is a prudent approach.

The use of a diversity factor determined by experience is another known approach which carried with it an unknown risk factor. In other words, the client does not make an informed decision, since he cannot judge what will be his risk that the installed system is not able to support the operation.

However, either of the above approach might not be the most energy efficient way!

At PV, we use our Proprietary Design Formula that took into consideration actual operation patterns such as:

- Numbers of Users during the Busiest Period / Time.
- Average Time of use of each users.

## The Case

A Central Housing Keeping Vacuum System was installed to meet the stringent requirement on cleanliness, quality finish and safe/health requirement of the work area. Two Hundreds (200) production operators routinely inspect and remove particles or dust from cavities of the product with the installed Housing Keeping Vacuum System.

The system replaces the use of Compressed Air to blow the particles out of the cavities, which pollute the work area around it.

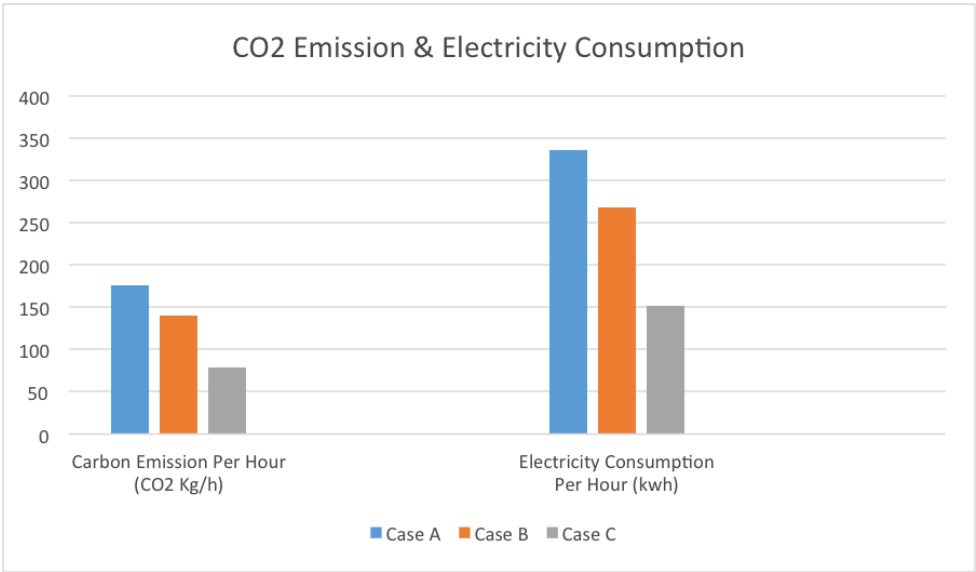
Each operators uses the system for about 20 Minutes Each Time. At the busiest hour of the day, each operator will use the system once within that hour.

The below compare carbon emissions of the system based on:

- Case A – System designed for 200 Production Operators.
- Case B – System designed with a diversity factor of 80%.
- Case C – System designed with our Proprietary Approach.

PV approach generates only **79.1 kg of CO2 per hour** as compare to 175.7 Kg & 140.6 kg for Case A & B respectively.

In other words, PV designed system uses only **151.2 kw per hour** as compare to 336 kw per hour and 268.8 kw per hour for Case A & B respectively.



Remarks: Conversion factor taken from DECC "Tool for calculation of CO2 emissions from organizations".

