Reduce Your Carbon Footprint…Save Your Energy!

System Starting

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

puzair
A subsidiary of PV Vacuum Engineering Pte Ltd

System Starting

System starting can have a big impact on energy saving and ultimately the carbon emission of a system.

The below list some of the common approach:

Always On (Lead-Lag)

One machine is left operating all the time, an additional will come in when the load increases.

Pre-Determined Period

The machine can be programmed to start during a specific time of the day or different time on a different day.

Remote Starting

The system can be started remotely via the plant facility management system or from the mobile phone of an authorised person or via a telephone call.

Start-On-Demand

The system can also be designed to start via the action of the user such as the insertion of a cleaning hose into the vacuum inlet valve or at the flip of a switch located near the Inlet Point.

The Case

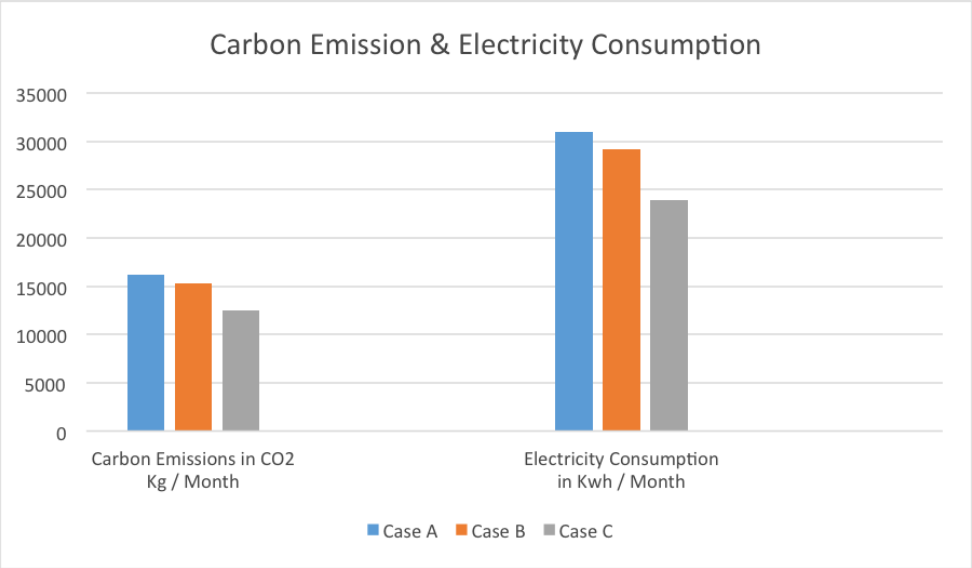
A 30 Users Central House Keeping Vacuum System was installed to upkeep a place that have a Gross Floor Area of 24,313 sq.m.

The energy consumption of the system based on the following approach were compare:

- **Case A** - One Machine of 20 Kw was left operating all the time, the other two machines will joined as and when the load increases. The machine are programmed to operate for a minimum of 1 hour once started before stopping to avoid premature failure caused by frequent start/stop actions.
- **Case B** - Two Machines are operated for a Pre-Determined Period of 18 hours a day. The Third Machine will join when the load exceed the ability of Two machines. The Third machine was programmed to operate for a minimum of 1 hour once started to avoid premature failure due to frequent start/stop action.
- **Case C** - The machines were designed to start-on-demand using PV Proven Control approach to prevent premature failure due to frequent start/stop actions.

PV's approach emits only **12,511 kg per month of CO2**, whilst Case A & B emits 16,213 kg & 15,250 kg per month of CO2 respectively.

In other words, PV's approach uses only **23,921.6 kwh per month**, whilst Case A & B uses 31,000 kwh & 29,160 kwh per month respectively.



Remarks: Conversion Factor taken from DECC “Tool for calculation of CO2 emissions from organization”.