

Building Management System Optimisation

Within the Energy Management profession, it is now commonly acknowledged that the most cost-effective way to reduce the consumption of an existing building is to optimise control of its existing plant and equipment. While this may sound simplistic, buildings which are truly optimised remain extremely rare.

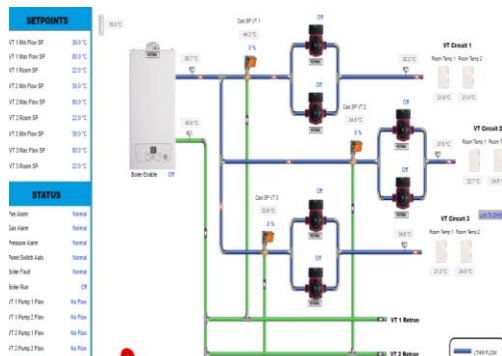
Ever changing weather conditions and occupancy patterns mean that the needs of all buildings are continually evolving. Hence, to be effective, the process of optimising a building's consumption profiles must also be continuous. In a large building or estate this generally has two main facets:

1. A modern Building Management System (BMS), which controls the building's main energy users. Its critical that this system provides its operator with a user-friendly interface, which accurately depicts the layout and operation of the building. It is also vitally important that the system is adequately maintained and regularly updated to reflect any on site modifications.
2. An effective process for managing the BMS. This should clearly identify the roles and responsibilities of users. It should also ensure that only suitably trained operators can make alterations to strategy and schedules, as well as clarifying the frequency of reviews.

At a large residential college, GM Energy Management were commissioned to develop a new BMS strategy and front end specification, which would truly optimise control of the site's main energy users.

Subsequently, the site's dated BMS was replaced with a modern Cylon Aspect system in late 2019/early 2020. The new system was handed over in late March 2020 and its ongoing control and optimisation managed by GM Energy Management thereafter.

BMS User Interface



In the year ending March 2021, the site's total energy consumption reduced by 1,433,276 kWh. This was a 14.2% saving, which reduced the client's annual energy costs by over £70,000.

Author

Gary McClune

Chartered Energy Manager IEng MEI

Annual Energy Savings

Total energy consumption reduced by 1,433,276 kWh in the first year. A savings of 14.2%.

Associated Cost Saving

In the first year this saved the client over £70,000.

Contact

info@gmenergymanagement.co.uk

www.gmenergymanagement.co.uk

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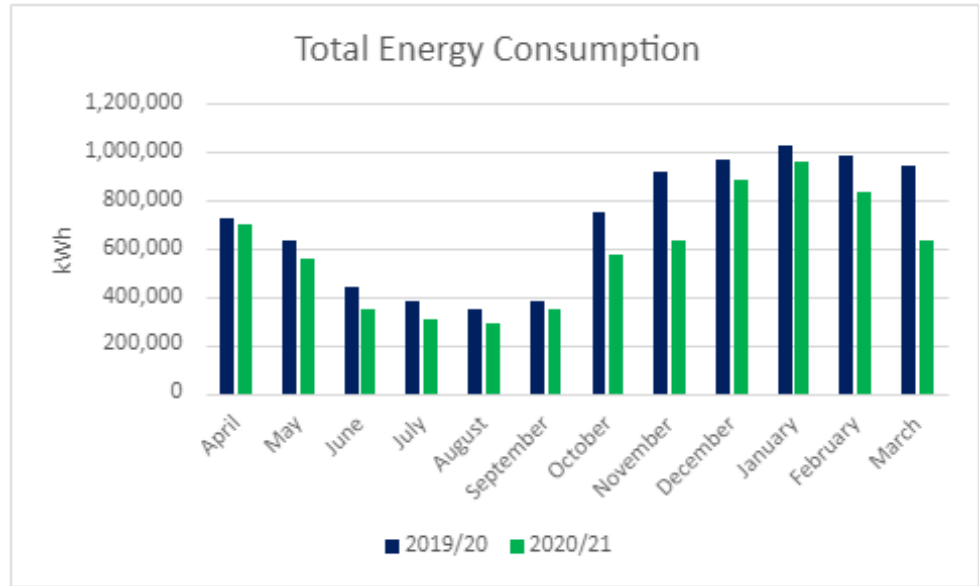
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The breakdown of the savings shows us that gas consumption reduced by 19.8% and electricity consumption by 7.7%. Particularly pleasing, is the consistent nature of the savings. As shown by these graphs both gas and electricity consumption were lower every single month after handover, than in the corresponding month of the previous year.

