

CHISWICK PARK
#ENJOY-WORK

ENERGY & WATER MANAGEMENT

ESG Legacy

CONTENT

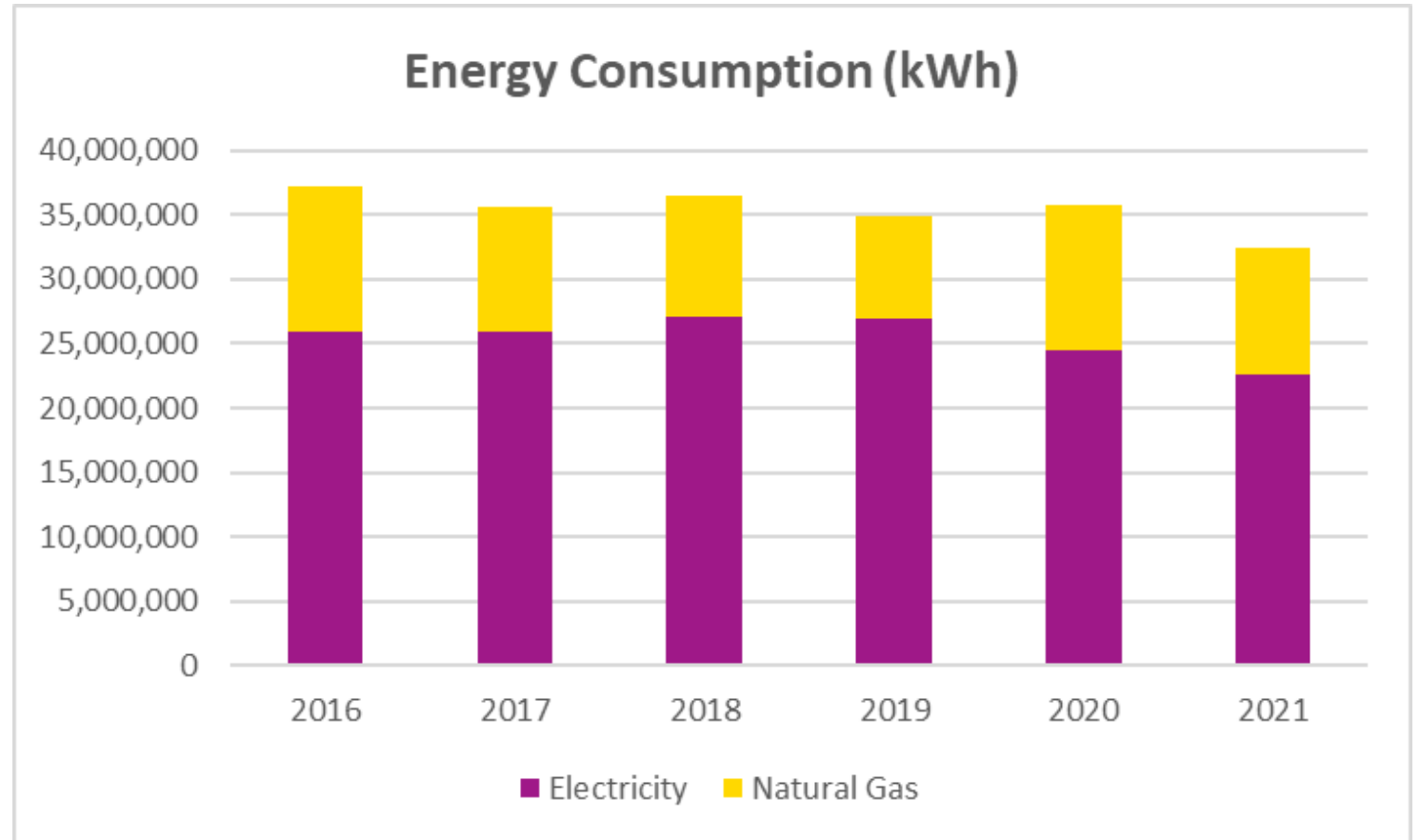
This presentation deck outlines a range of initiatives and achievements over 2016 – 2021:

- ENERGY CONSUMPTION
- CO₂ EMISSIONS
- ENERGY SAVING PROJECTS
- WATER CONSUMPTION
- WATER SAVING PROJECTS

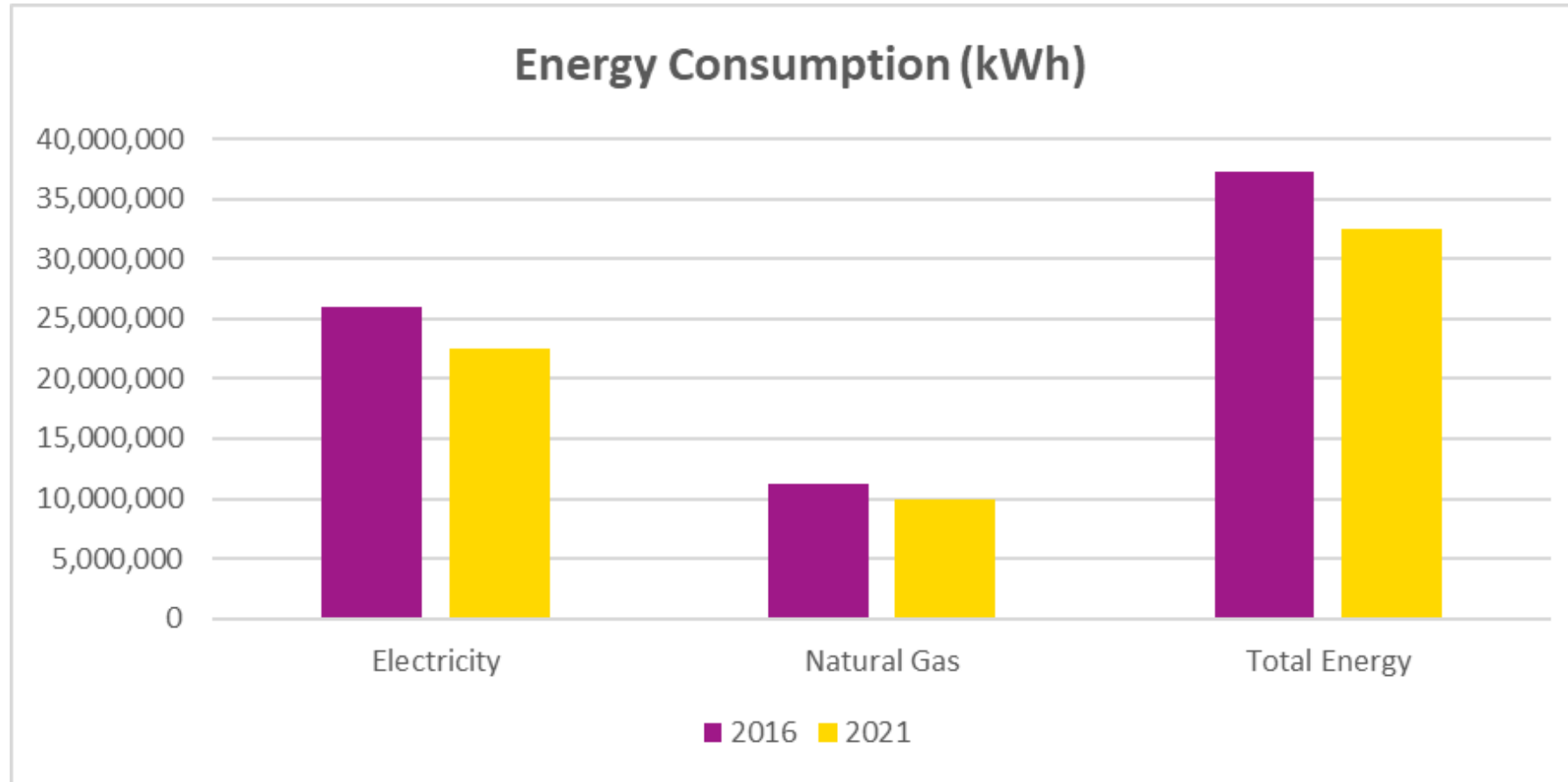


ENERGY CONSUMPTION

We achieved a 13% reduction in total energy usage across the campus 2016 – 2021.



ENERGY CONSUMPTION

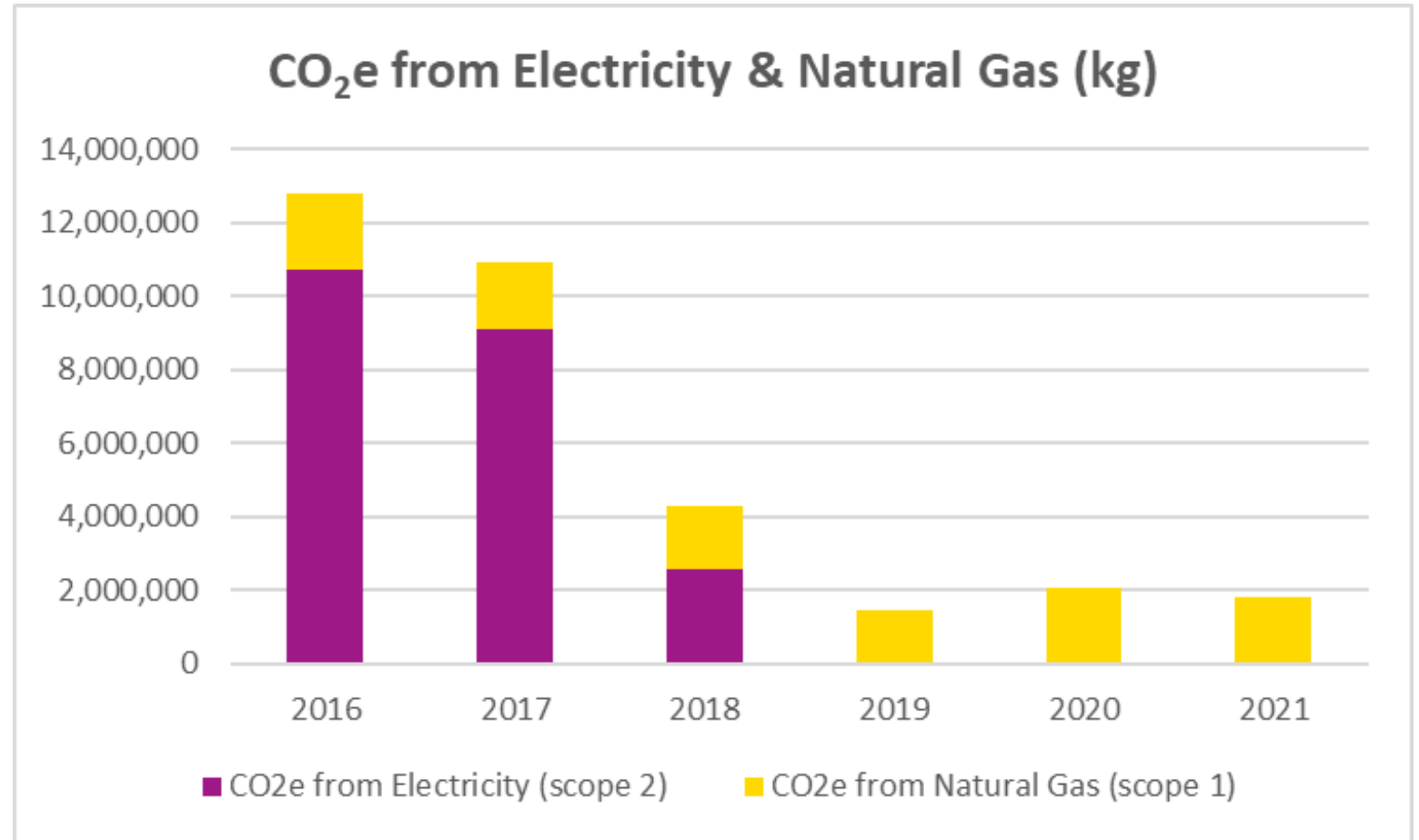


We achieved a 13% reduction in electricity and a 12% reduction in natural gas usage 2016 – 2021.

CO₂ EMISSIONS

Our CO₂ emissions from operational energy have decreased by 86% during 2016-2021.

In May 2018, we switched to 100% renewable electricity procurement for the entire campus .



ENERGY SAVING PROJECTS

To further enhance savings in energy use, during 2016 -2021 we invested over £2,6 million in projects that deliver improved energy efficiency and reduction in our CO₂ emissions:

- Chiller Units Replacement
- LED Lighting
- Building Management System (BMS)
- Energy Management Platform
- Automated Meter Readers (AMR)
- Digital Gas Burners
- Improved Efficiency Air Handling Units
- Improved Efficiency Hand Dryers
- Improved Efficiency Toilet Extract Fans
- Booster Set Replacement
- Installation of Electric Vehicles Chargers



ENERGY SAVING PROJECTS

Chiller Units Replacement

- We operate a tightly managed life cycle replacement programme which is bespoke to each building.
- Buildings 1, 3, 4, 5, 9, 10, 11, 12 were fitted with new more energy efficient chiller units over the past 5 years.
- Total Investment: c£2m.
- Benefit: Reduced runtime and electricity consumption to achieve the same cooling requirements for the buildings compared to the previous chillers.



ENERGY SAVING PROJECTS

LED Lighting

- All lighting, in all common areas within the buildings and across the estate have had halogen lights replaced with LED and more efficient lighting.
- In 2016 the LED upgrade project began and was completed in 2019 for the entire campus.
- Each Building, including the Estate was assigned a budget and 3-year plan.
- The new lights were fitted by the Guest Engineering Solutions Team, utilising in hours labour and therefore reducing the overall cost of replacement and install.
- Total Investment: c£185k.
- Benefit: Reduced electricity consumption and reduction in lamp change frequency.



ENERGY SAVING PROJECTS

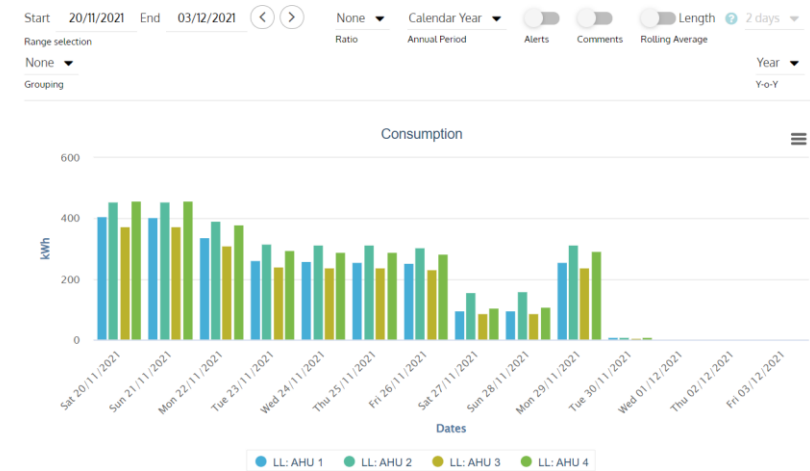
Building Management System (BMS)

- BMS Controller upgrades in Buildings 1, 3, 5, 6, 10 and 11.
- Total Investment: c£150k.
- Benefit: This improved communication between the BMS and existing plant to allow for more timely reactions to environment, increased reliability of the system and facilitates future improvements and upgrades to the BMS strategy.

ENERGY SAVING PROJECTS

Energy Management Platform

- Detailed Energy Management Platform sourced and being rolled out across all buildings.
- Live and accurate 30min data provision now available.
- Plant energy usage now clearer allowing optimisation of running times.
- Options for guest companies to align to this system and see their own demise energy usage and analysis.



ENERGY SAVING PROJECTS

Automated Meter Readers (AMR)

- Installed in buildings 1, 3, 5, 10 and 11 – these added to AMRs already installed for the rest of the Campus.
- Benefit: Allows for instant access to meter readings across Campus as well as feeding data to BMS and JFM Energy Management Platform.
- Schneider Electric Portal and JFM Energy Management System also now provides access to instant half hourly data for all Buildings and the Estate.
- Total Investment: c£17k.

ENERGY SAVING PROJECTS

Digital Gas Burners

- In 2016 and 2017 we replaced the gas burners in Buildings 1,3, 10 and 11.
- Weishaupt burners 5% more efficient than originally installed burners.
- Moved from linkage burners to digital – linkage burners lose combustion efficiency between maintenance visits due to wear of moving parts whereas the digital burners maintain their efficiency due to the solenoids constantly re-zoning their starting position.

In 2018 we replaced the gas burners in Buildings 4 and 5.

- These were replaced with like for like units as the original units were unreliable and the installation in poor condition – this has increased the reliability of the heating for the Building resulting in a reduction in Gas consumption in Building 4.
- Total investment: c£90k.

ENERGY SAVING PROJECTS

Improved Efficiency Air Handling Units

- Full Refurbishment of Air Handling Units in Buildings 1 & 3.
- Total investment: c£210k.
- Benefit: Saving 30% electricity on original design.



ENERGY SAVING PROJECTS

Improved Efficiency Hand Dryers

- Replaced all hand dryers in buildings 1, 3, 4, 5, 9, 10 and 11.
- Dyson V Blades & ffuuss (more efficient).
- Total investment: c£41k.
- Benefit: Savings in electricity consumption.



ENERGY SAVING PROJECTS

Improved Efficiency Toilet Extract Fans

- These were replaced in B1, 3, 4, 5, 9, 10, 11.
- These new direct drive fans replaced belt driven units therefore increased efficiency and less maintenance needed.



B4 New Toilet Extract Fan

Booster Set Replacement

- Booster sets were replaced as they were at end of lifecycle. Pumps run on duty – so alternate and only run together if absolutely needed.

Total Investment: c£66k.

Benefit: Savings in electricity consumption.



B9 New Cold Water Booster Set

ENERGY SAVING PROJECTS

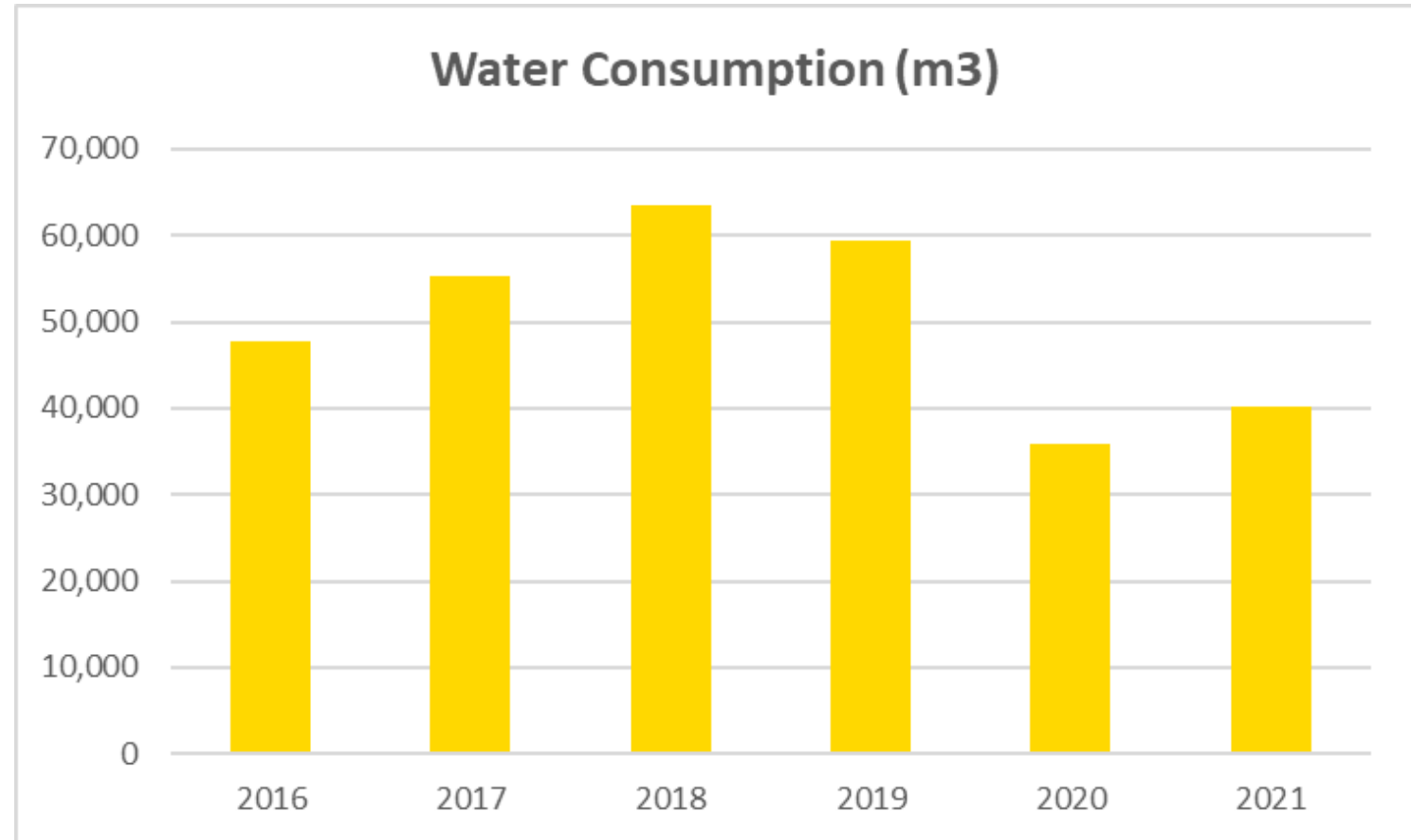
Installation of Electric Vehicles Chargers

- Park perimeter and building undercroft electric vehicle charge solutions developed and implemented for several guest companies.
- Facilitated survey for each Guest company for installation of Electric Vehicle Chargers in their undercroft car parking spaces. This allows the Guest to take advantage of the Government levy directly with the supplier and assists with all technical enquiries regarding the installation.
- Total investment in EV charge points: c£65k.
- Benefit: Future proofing the campus, provision of essential facilities, a positive environmental impact (all our electricity is 100% renewable sources), therefore making our campus more sustainable and tackling “scope 3” CO₂e emissions from employee commuting.



WATER CONSUMPTION

We achieved a 16% reduction in total water usage across the campus 2016 – 2021.





WATER SAVING PROJECTS

Rainwater Harvesting Pumps

- Buildings 4, 5, 6, 7, 8, 9 roofs feed rainwater directly into the lake.
- Buildings 1, 2, 3, 10, 11 & 12 have rainwater harvest pumps, which can feed the lake.
- Buildings 1, 3 and 11 pumps were replaced between 2018 and 2020.
- Total Investment: c£60k.
- Benefit: Reduced demand on borehole ground water supply used to top-up lake levels.





WATER SAVING PROJECTS

Water Tap Volumisers

- Applied to all washrooms in all buildings across the campus.
- Purpose: to reduce water flow through the taps, thus reducing the overall amount of water used across the park.
- Total Investment: c£6k.

WAY FORWARD

This slide pack provided a high-level summary of our Energy Management, CO₂ Emissions associated to our energy use and Water Management in 2016 - 2021.

During this period, we set the foundation for robust environmental data collection and monitoring of performance, we delivered significant reductions in our impacts and we are ready to embark with our new ESG Strategy towards our next milestones of net-zero operational carbon of our buildings by 2026.

