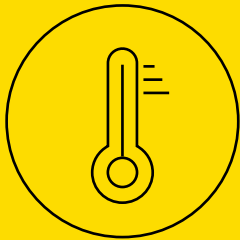


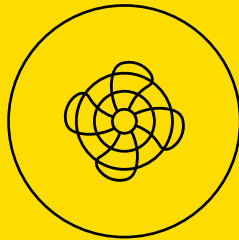
# Building management systems to reduce energy use by over 10%



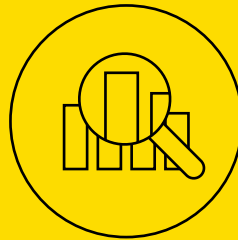
Lighting



Temperature



AC Optimiser



Monitoring

## Background and challenges

- Heating and lighting accounts for approximately 60% of our energy bill
- Historically, JD had limited building management systems (BMS) in its estate
- BMS systems allow us to monitor, adjust and control energy usage
- Without detailed usage data, energy savings cannot be verified

## Work undertaken

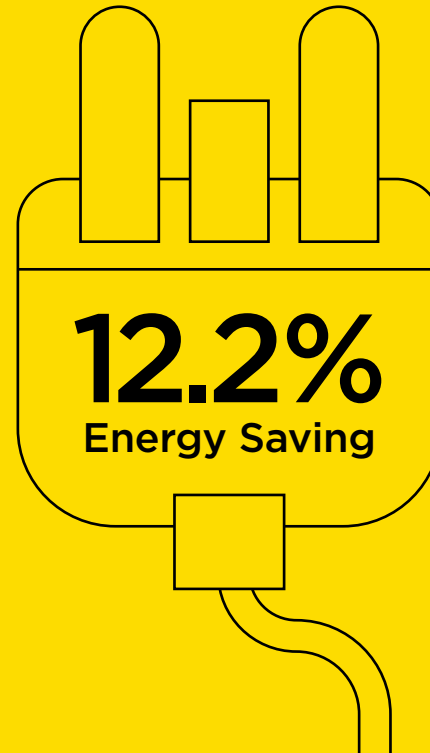
- JD has now installed BMS within 316 of our sites. We installed 'last person out switch' (LPOS), ensuring no energy is wasted overnight/ during closure.
- BMS provides remote monitoring by online connection to store equipment (air conditioning, heating etc.) allowing early identification and fix of faults
- Fixing equipment and temperature errors quickly reduces the risk of excessive/ wasted energy usage and reduces our CO2 impact

## Key achievements

- To allow us to deliver more BMS systems, we have negotiated an improved deal that will allow us to monitor more stores and save more energy
- JD now has a plan in place to move our international stores to our successful "install, monitor, reduce and maintain" energy strategy
- 2018 Energy savings of 12.2% - equal to 1,227 tCO2 of carbon saving

## Next up

- We are trialling BMS in our JD U.S. stores, and are identifying test sites in Australia, France and Netherlands
- A new JD Gym specification is under development to support joint electricity and gas usage monitoring
- Additional energy reduction opportunities are being trialled (e.g. small seasonal temperature reduction) by adjusting store and Kingsway DC settings



“Breathe works with JD on the identification and implementation of energy-reduction opportunities. We are pleased to verify that JDs investment in Building Management Systems yielded a 12.2% reduction in energy use from the previous year baseline period. Supported by Breathe, JD is simultaneously reducing its environmental impact and energy costs.”

**Chris Norburn**  
**Operations Director**  
**Breathe Energy Limited**