Swords Office (38/39)
Cappagh Hospital
Road to Decarbonisation

We're taking climate action

NOH Cappagh is Ireland's largest elective orthopaedic centre. The hospital provides a comprehensive national service for patients with lower and upper limb and spinal conditions.

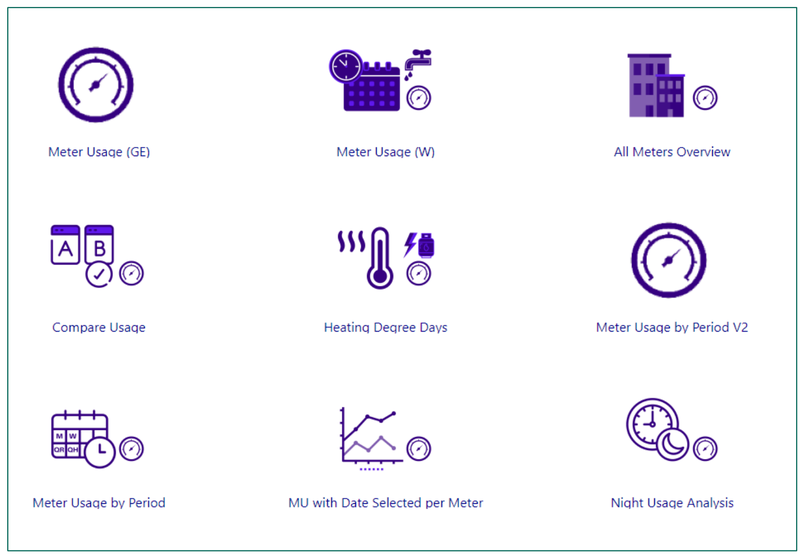
The National Orthopaedic Hospital Cappagh approached the HSE Climate Action and Sustainability office in 2020. They established their Green Team in the same year and have become one of the top health sector energy teams in the country.

Energy Projects & Initiatives by HSE/Cappagh

Pump Replacement

TRV Install

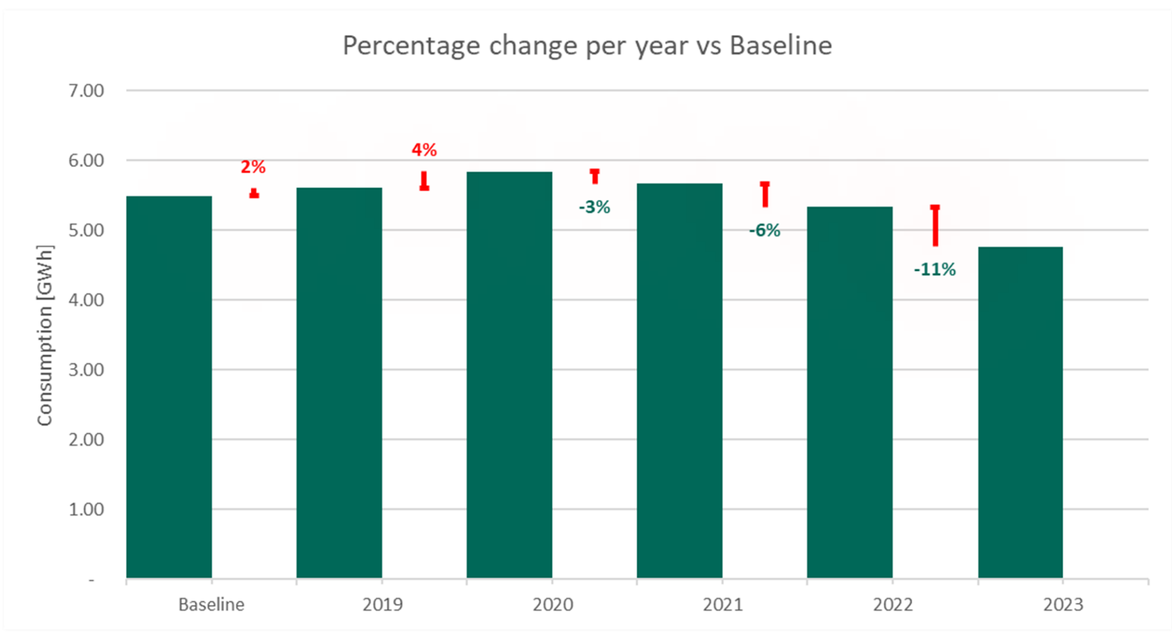
Site Wide Lighting Replacement



Metering Programme

Energy Awareness Day

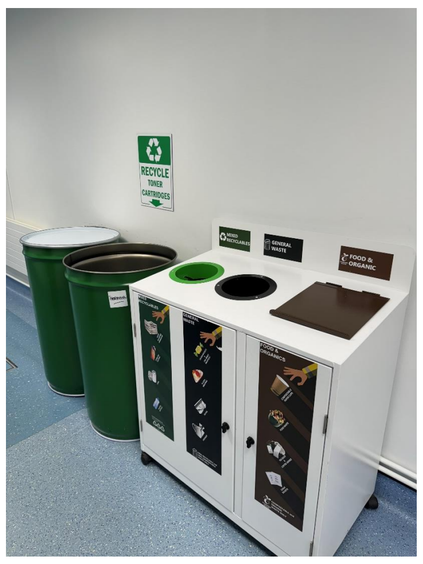
Energy Consumption Yearly Profile



Statistics from 2016-2018 Baseline vs 2023

Total Reduction	Electricity Consumption	Gas Consumption	CO_2 Emissions
↓ 23.2%	↓ 5.7%	↓ 17.5%	↓ 27%
731,060 kWh in 2023	111,197 kWh reduction in 2023	619,863 kWh reduction in 2023	423 tonnes saved in 2023

Sustainability & Waste Projects by HSE/Cappagh



Waste Segregation Bay

Beehive producing honey

Cardboard Bailer
(400 KG's recycled in January 2024)

Bike Shelter to promote sustainable transport

Swords – 38/39

NOH Cappagh

Utility Sub Metering

We're taking climate action

Since partnering with the HSE Energy Bureau in 2020, the hospital has reduced its energy use by **26%.**

By 2023, most of the "low-hanging fruit" projects have been completed.

To progress further towards the 2030 targets, more detailed data on energy use was required

In Q4 2023

23 Meters (Gas and Water)

installed by Cappagh and funded by HSE/SEAI

16 Meters (Electricity)

installed and funded by OPW

TO

Determine the consumption of electricity, gas and water per area of the hospital and detect any trends or patterns in consumption profiles.

Allow for data collection for projects in the future that require granular information.

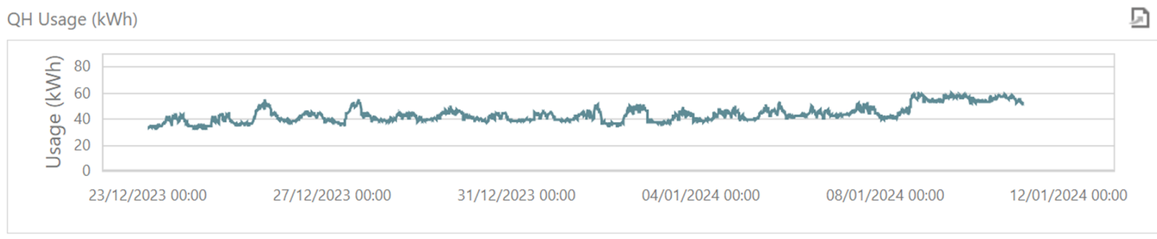
Allow for data interrogation and tracking progress to targets.

Allow for data collection for energy awareness activities and to determine the energy saving impact of projects completed on site.

Determine if new plant and equipment installed operate to the conditions as advertised and promised.

Enable leak and energy wastage detection.

Leak Detection



Gas consumption increase of 26% in the main plant room identified

Leak losing 1300 litres a hour

A legionella flushing valve was stuck open dumping hot water so this was rectified and the flushing programme altered from 3x20 min cycles to 3x10 min cycles

A second leak is detected to be losing 500 litres a hour and a leak detection survey is underway.

Project Selection

Meter data showed high baseline natural gas use in plant room
(47% of the total gas in the main hospital)

- Indicates that over 85% of the energy is being used to replace heat losses through the pipework.

Prompted a project to improve the pipe insulation +/- decentralisation of D.H.W. system

NEXT STEPS

- Cold water leakage detection and repair – reduce consumption
- Heating control optimisation, valves and timers – reduce natural gas consumption
- Determine project feasibility for decentralised heating & pipework insulation – reduce heat losses
- Additional BMS control and monitoring