



ENERGY MONITORING AND TARGETING

GS Yuasa Battery Manufacturing UK Ltd (GYMUK) has improved its energy efficiency by 57% since its energy monitoring and improvements started in 2004.

In 2020, the company continued with its programme of internal monitoring of energy usage, and has full confidence in the readings being obtained. GYMUK is now monitoring the power used each week and ensuring shut down procedures are implemented correctly utilising the data supplied by our metering company.

In 2021, it is planned that the company will use up to 15% of its energy from a solar installation which is to be installed on the roof of factory Nos. 2, 4 & 5 and also from a wind turbine which will be sited on land nearby. The project has been delayed due to COVID-19 but started late in 2020. Both projects will be funded by a WEFO grant and the supply will be via a third party.

GYMUK continues to strive to push energy uses even lower through improved efficiency procedures and more controlled management. The company's main objectives are to raise awareness, improve efficiency levels & reduce costs.

At the beginning of 2015 the company received confirmation that the site would become exempt from the Climate Change Levy as it is now classified as a metal smelter, and we continue to remain exempt from CRC.

At the end of 2015 the first ESOS report was submitted in line with our legal obligation which was followed with an ESOS2 report in 2019.

During 2017 we were accepted into the Intensive Users scheme through the Department for Business, Energy & Industrial Strategy, and received confirmation in January 2020 that this will continue for another 12 months.

The two lists below indicate some of the projects which were undertaken in 2020, as well as proposed further actions for 2021. These projects were identified in order to further drive down costs and improve environmental management and monitoring.

Improvements completed in 2020:

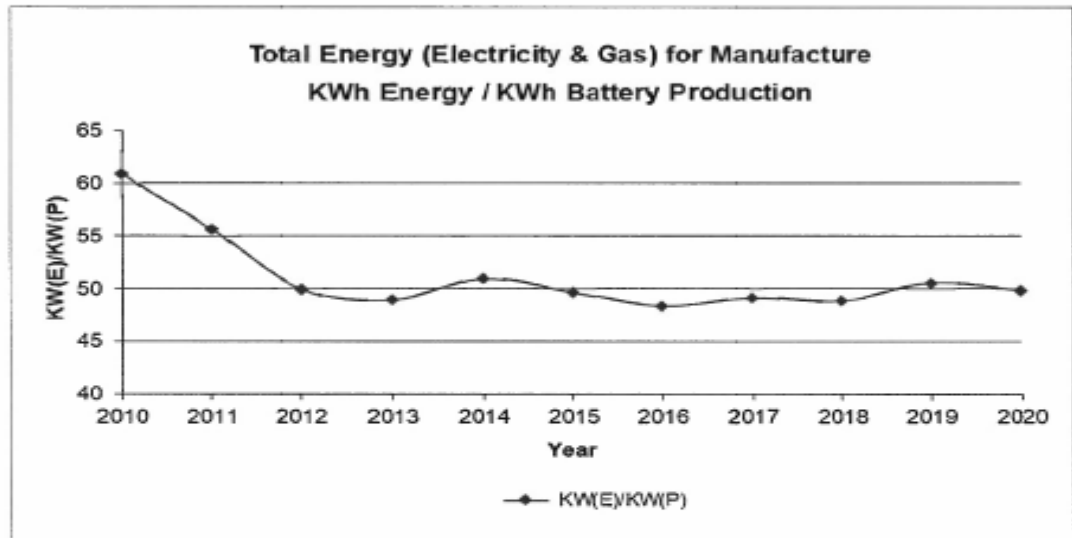
- Continuation of LED retro fitting on the shop floor.
- Installation commenced to fit solar panels on the roof of factory No.5.

In addition, the following is planned in 2021:

- Continuation of LED retro fitting on the shop floor, this includes the change of low and high bay lighting to LED.
- Monitoring efficient shutdowns.

- Complete installation and commence use of solar power.
- Commence wind turbine installation.
- Plan to fit solar panels to the roof of factory No.1.

The graph below shows the reduction in KWh of energy used to manufacture a KWh of production (Battery capacity measurement). Over the last 15 years, we have reduced by 50% the energy required to manufacture 1KW of battery power. Next year, with a significant amount of renewable energy being used, we may not see a reduction in this metric but we will see a reduction in the CO2 emissions.



2020 Environmental Objectives and Targets	
Item No.	Environmental Objective
1	Repeat the 2019 KWh of energy per KWh of production in 2020. 2020 target = 48.0KW energy per KWh of production. Actual result 51.6 Kwh/KWh, YTD 49.9KWh/KWh. The target was missed but it was affected significantly by COVID-19 in Q's 2 & 3.
2	Reduce the scrap level from the 2019 figure of 0.59% to 0.40% in 2020. Q4 result is 0.51%, the annual amount was 0.47% a large improvement on 2019 but the target was missed.
3	Maintain weekly Lead levels in ground/surface waters at the end of the site at below the 2020 BAT-AEL of 0.5 mg/l, throughout 2020. All surface water results taken in the period 1st January to 31st December 2020 are below the BAT-AEL of 0.5 mg/l, therefore, the target has been met.
2020 Environmental Tracking Items	
1	In 2020, maintain the 2019 performance indicator of 4.1400265 m³/T prod for total water per unit output by the end of 2020. The performance indicator at the end of Q4, 2020 is 4.2230286, therefore, the target has been missed slightly. It will continue to be monitored again in 2021. The COVID-19 situation has impacted significantly with a reduced battery tonnage being produced.
2	In 2020, maintain the 2019 performance indicator of 0.0731259 T waste/T prod. The performance indicator at the end of Q4, 2020 is 0.0648250, therefore, the target has been met. Waste will continue to be monitored in 2021.

2021 Environmental Objectives and Targets	
Item No.	Environmental Objective
1	Repeat the 2020 KWh of energy per KWh of production in 2020. 2021 target = 48.0KW? energy per KWh of production.
2	Reduce the amount of CO2 generated by manufacturing, from the 2020 level of 11.847KgCO2/KWh (Battery) to 11.256 a 5% change
3	Reduce the scrap level from the 2020 figure of 0.47% to 0.39% in 2021.
4	Maintain weekly Lead levels in ground/surface waters at the end of the site at below the 2020 BAT-AEL of 0.5 mg/l, throughout 2021.
5	In 2021, repeat the 2020 performance indicator of 4.1400267 m ³ /T prod for total water per unit output by the end of 2021.
Item No.	2021 Environmental Tracking Items
1	In 2021, maintain the 2020 performance indicator of 0.0648250 T waste/T prod.