



**ANNUAL IMPROVEMENT TARGETS
SUMMARY REPORT –
REPORTING YEAR 2022**

BAE SYSTEMS

I N S P I R E D W O R K

**GLASCOED MUNITIONS FACTORY,
GLASCOED, USK, MONMOUTHSHIRE,
NP15 1XL**

PERMIT REFERENCE EPR/LP3731SU

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ACRONYMNS/ABBREVIATIONS IN THE TEXT

IMS	Integrated Management System
BAE Glascoed	BAE Systems Glascoed Munitions Factory
ECL	Environmental Compliance Limited
KPI	Key Performance Indicator
CHP	Combined Heat and Power
NRW	Natural Resources Wales

1. Introduction

- 1.1. The following report has been produced in accordance with Condition 4.2.1.(b) of Environmental Permit Reference LP3731SU. Conditions 4.2.1.(b) states:
*“A report or reports on the performance of the activities over the previous year shall be submitted to the Agency [now Natural Resources Wales (“NRW”)] by 31st January or other date agreed in writing by the Agency each year. The report shall include as a minimum:
(b) where the operator’s management system encompasses annual improvement targets, a summary report of the previous year’s progress against such targets.”*
- 1.2. BAE Systems Glascoed Munitions Factory (“BAE Glascoed”) has an Integrated Management System (“IMS”) which includes the setting and monitoring of key performance indicators (“KPIs”) to achieve continual environmental improvement.
- 1.3. The summary report below discusses the set environmental KPIs, strategies undertaken to achieve the KPIs, the observed performance against each target in 2022 and any limitations encountered.

2. KPI Performance

2.1. Gas Consumption

2.1.1. BAE Glascoed set a target to reduce gas consumption by 2% in 2022 compared to 2022 forecast figures.

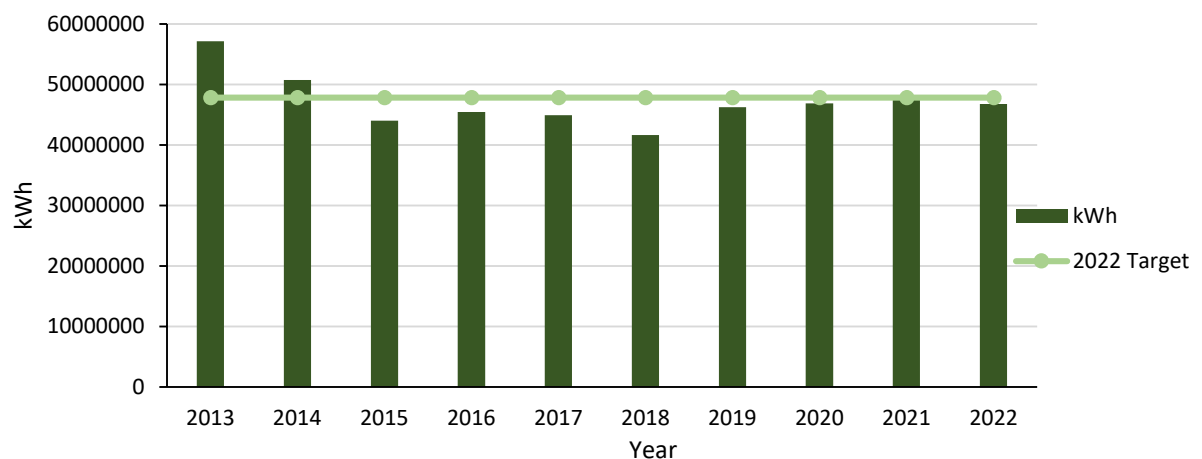
2.1.2. The following strategies have been implemented to reduce gas consumption at the site:

- installation of a number of steam meters integrated into the Building Management System was undertaken in 2018 and readings from the steam meters are analysed in order to identify potential targeted energy saving projects; and
- the ongoing project related to steam rationalisation on the feed to a 24 hour process building (8E13).

2.1.3. A gas consumption target of 47,814,563kWh was set for 2022. This figure was a 2% reduction from the 2022 forecast data of 48,790,370kWh.

2.1.4. Gas consumption for the last 10 years is shown below in Figure 1, together with the target of 47,814,563kWh.

Figure 1: BAE Glascoed Gas Consumption – 2013-2022



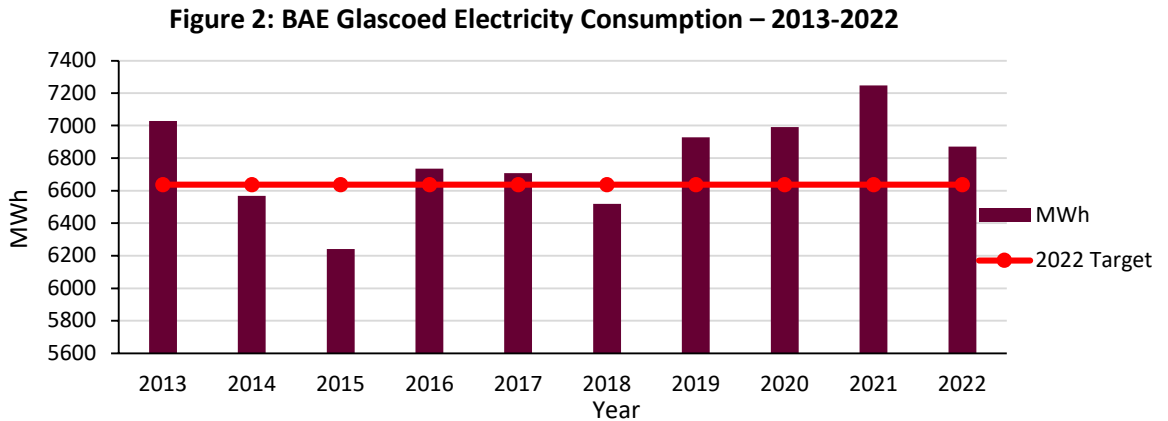
2.1.5. The data in Figure 1 shows BAE Glascoed successfully achieved the 2% target set for 2022 when compared to the 2022 forecast.

2.1.6. The actual gas consumption in 2022 of 46,771,575.1kWh compared to the 47,814,563kWh target for 2022 shows a 2.18% decrease, therefore, consuming less than the 47,814,563kWh. forecast.

2.1.7. A target representing a 2% decrease from the 2023 forecast gas consumption has been set for 2023.

2.2. Electricity Consumption

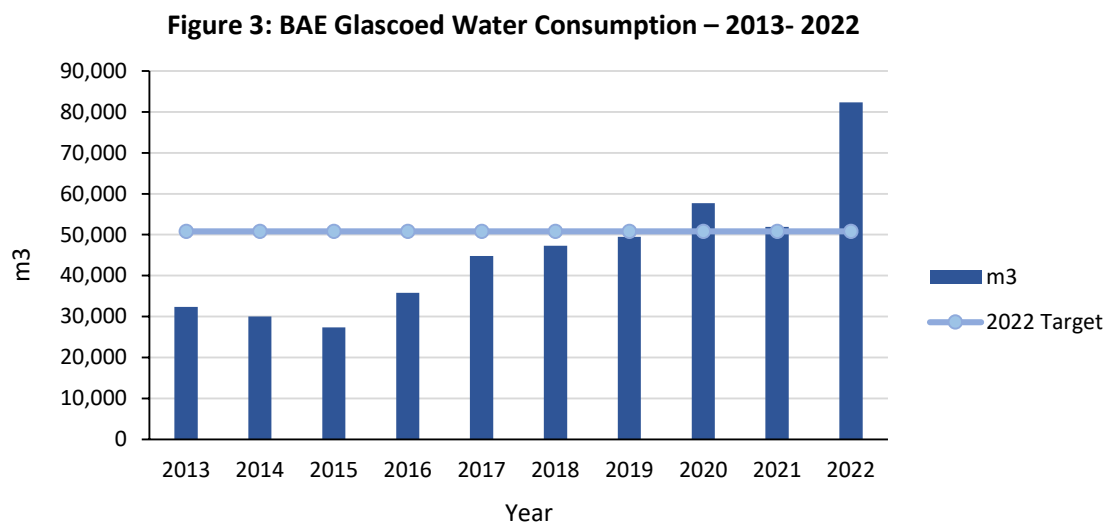
- 2.2.1. BAE Glascoed set a target to reduce electricity consumption by 2% in 2022 compared to the 2022 forecast data.
- 2.2.2. In order to reduce electricity consumption at the site, BAE Glascoed continued to install energy efficient lighting as identified by analysis of metered data.
- 2.2.3. Electricity consumption for the last 10 years is shown below in Figure 2, together with the target of 6,637.099MWh.



- 2.2.4. The data in Figure 2 shows BAE Glascoed was unable to achieve the 2022 target of 6,637,099kWh. The actual electricity consumption in 2022 of 6,870,260kWh was 3.513% above the target figure, therefore, BAE Glascoed were not able to meet the set KPI.
- 2.2.5. In 2022, the BAE Glascoed site has returned to normal occupancy following the Covid 19 pandemic. This resulted in an increase in electricity use across the site and as a result, the KPI for 2022 was not met.
- 2.2.6. Although BAE Glascoed did not meet the set KPI, it is acknowledged that the electricity consumption still shows a reduction with respect to 2021 consumption. The reduced electricity consumption compared to 2021 can largely be attributed to the repair of water leaks. The pumping of water around the site is stopped to enable the repair of leaks, hence resulting in the reduced electricity consumption.
- 2.2.7. A target representing a 2% decrease from the 2023 forecast electricity consumption has been set for 2023.

2.3. Water Consumption

- 2.3.1. BAE Glascoed set a target to reduce water consumption by 2% in 2022 compared to 2021 measured data.
- 2.3.2. The following strategies were implemented to reduce water consumption at the site:
- continued leak detection; and
 - monitoring of the base load which has been integrated into the Building Management System.
- 2.3.3. Water consumption for the last 10 years is shown below in Figure 3, together with the target of 50,888.46m³.



- 2.3.4. The data in Figure 3 shows BAE Glascoed was unable to achieve the 2022 target. The observed water consumption in 2022 of 82,336m³ compared to 51,927m³ in 2021 demonstrates an increase of 58.56%.
- 2.3.5. The increase of 58.56% on 2021 usage can be accounted for by a substantial leak in the Group 9 area of the site. This leak was identified in October of 2022 and was rectified before the end of the month.
- 2.3.6. BAE Glascoed have trialled the use of acoustic monitoring for underground infrastructure to better identify leaks and hasten their repair however due to the lack of cell data coverage in the trial area, the trial was unsuccessful.
- 2.3.7. A water consumption target of 80,689.28m³ has therefore been set for 2023, this represents a 2% decrease based on 2022 measured data.

3. Conclusion

- 3.1. As part of BAE Glascoed's IMS, annual improvement targets are set to enhance environmental performance and achieve continual improvement. The targets which were set in 2022 related to gas, electricity and water consumption aiming to achieve a reduction of 2% for gas and electricity in comparison to 2022 forecast figures and 2% for water in comparison to 2021 actual performance.
- 3.2. BAE Glascoed successfully achieved the set KPI for gas consumption in 2022. Unfortunately, BAE Glascoed was unable to achieve the set KPI for water usage in 2022 as a result of a substantial leak at the site. BAE Glascoed was also unable to meet the set KPI for electricity consumption in 2022, this is a result of the site returning to normal levels of occupancy following the Covid 19 pandemic.
- 3.3. Following evaluation of the performance in 2022, new KPIs have been set for 2023. A reduction of 2% has been set for gas and electricity based on forecast data and water consumption against 2022 actual consumption data.
- 3.4. The performance of 2023 will be discussed and interpreted based on the actual performance data for gas, electricity and water as part of next year's annual returns reporting.