



**GLASCOED MUNITIONS FACTORY,
USK, MONMOUTHSHIRE**

**Annual Improvement Targets
Summary Report –
Reporting Year 2021**

BAE SYSTEMS

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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.”

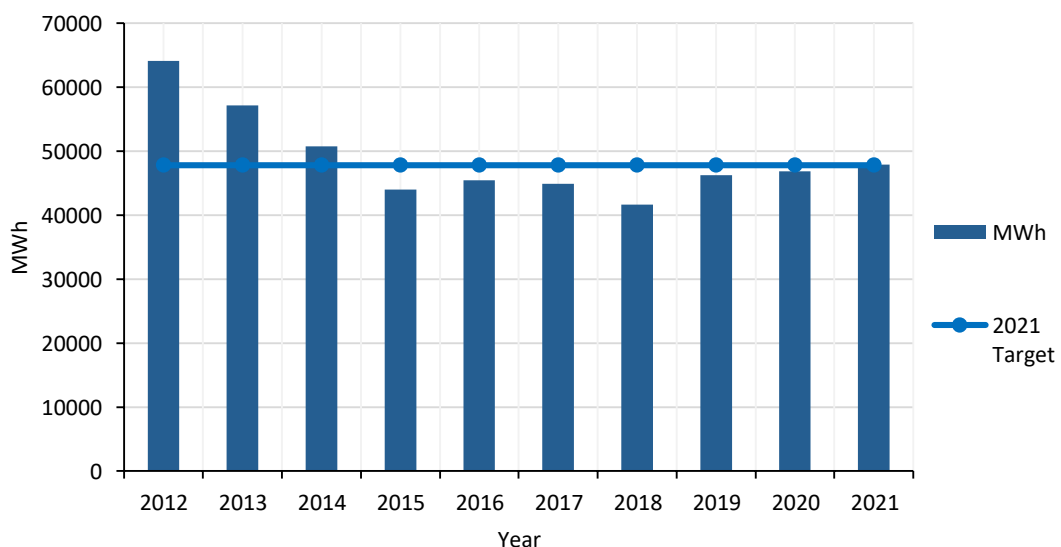
- 1.2. BAE Systems Glascoed Munitions Factory (“BAE Glascoed”) has an Integrated Management System (“IMS”) which includes the setting and monitoring of key performance indicators (“KPIs”) to achieve continual environmental improvement.
- 1.3. The summary report below discusses the set environmental KPIs, strategies undertaken to achieve the KPIs, the observed performance against each target in 2021 and limitations encountered.

2. KPI Performance

2.1. Gas Consumption

- 2.1.1. BAE Glascoed set a target to reduce gas consumption by 2% in 2021 compared to 2021 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 2021. This figure was a 2% reduction from the 2021 forecast data of 48,790,370kWh.
- 2.1.4.
- 2.1.5. Gas consumption for the last 10 years is shown below in Figure 1, together with the target of 47814.6MWh. It should be noted that the gas meter was not operational for half of 2021 and has since been replaced. The Procedure and Methodology for Data Gap Closure in BAE Glascoed's Greenhouse Gas Permit (UK-W-IN-11615) was used for this period.

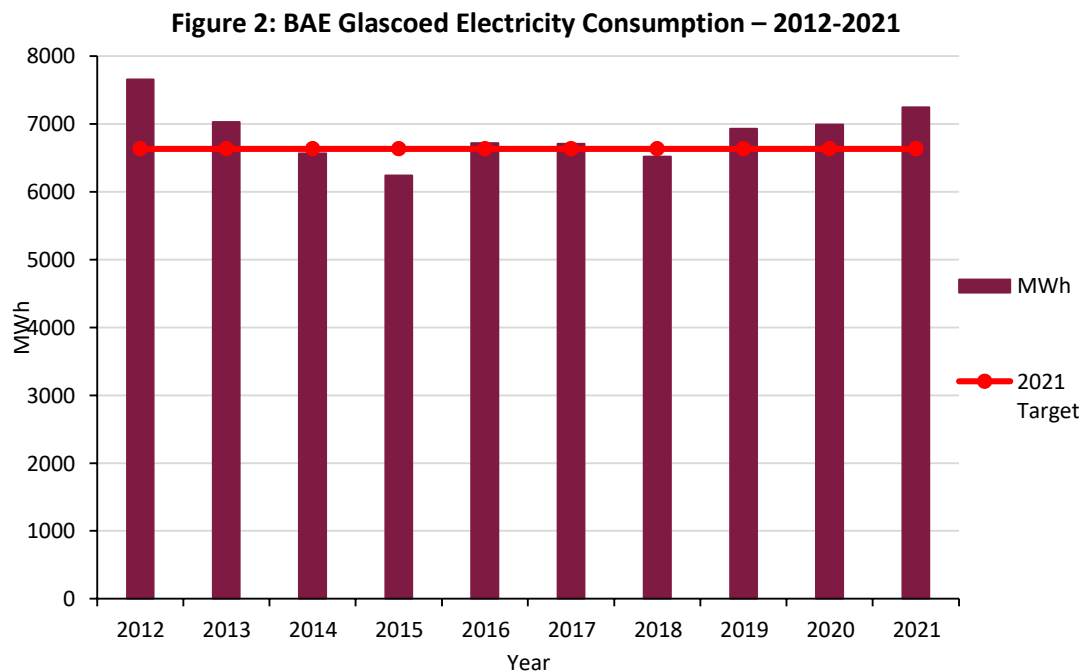
Figure 1: BAE Glascoed Gas Consumption – 2012-2021



- 2.1.6. The data in Figure 1 shows BAE Glascoed did not achieve the 2% target set for 2021 when compared to the 2021 forecast.
- 2.1.7. The actual gas consumption in 2021 of 47,86,225kWh compared to the 47,814,563kWh target for 2021 shows a 1.85% decrease, therefore, consuming more than the 47,814.6MWh forecast target.
- 2.1.8. It is noted that although the 2% target was not met, BAE Glascoed did achieve a reduction of 1.85%. compared to forecast 2021 gas consumption.
- 2.1.9. The target of 46,928500.5kWh has been set for the year 2021, representing a 2% decrease from the 2021 measured data.

2.2. Electricity Consumption

- 2.2.1. BAE Glascoed set a target to reduce electricity consumption by 2% in 2021 compared to the 2021 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 6,633.77MWh.



- 2.2.4. The data in Figure 2 shows BAE Glascoed did not meet the 2021 target of 6,633,771kWh. The actual electricity consumption in 2021 of 7,246,408kWh was 7.05% above the target figure, therefore, BAE Glascoed were not able to meet the set KPI.

The reason for the increase in electricity consumption can be accounted for by a number of factors, these include additional water pumping on the fire water system and significant energy users in the production areas running throughout the year. These energy users would usually be turned off for 6 – 8 weeks during the year.

- 2.2.5. BAE Glascoed will continue to roll out the installation of energy efficient lighting as identified from analysis of metered data. The energy consumption target of 7,101,479.84kWh has been set for the year 2022, representing a 2% decrease from the 2021 measured data.

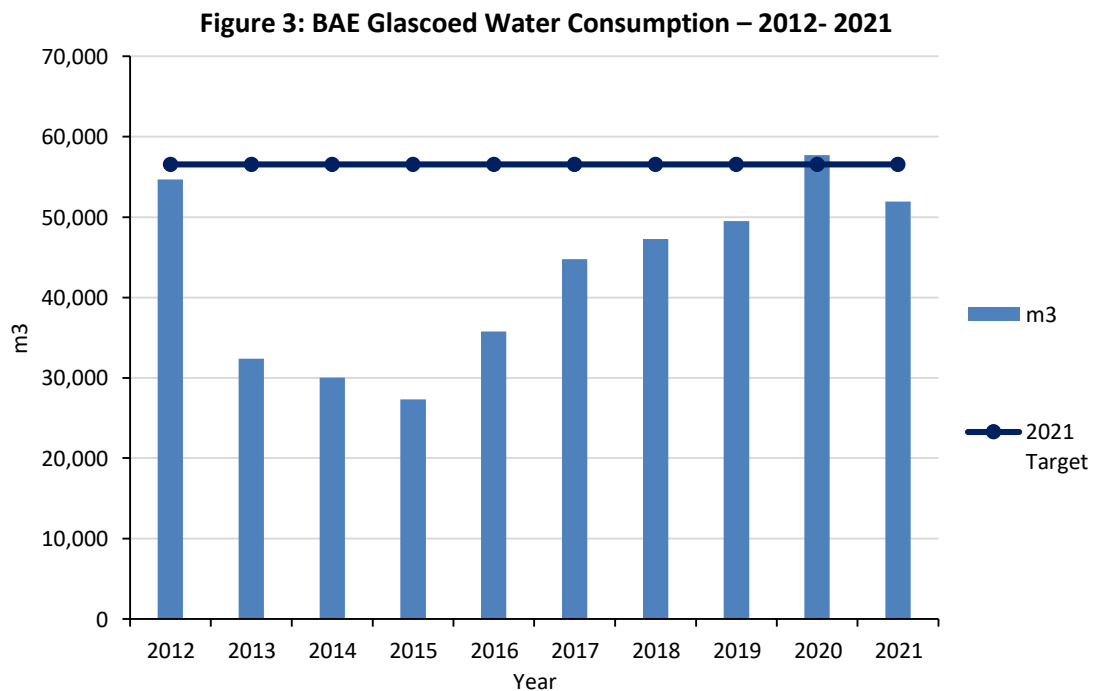
2.3. Water Consumption

2.3.1. BAE Glascoed set a target to reduce water consumption by 2% in 2021 compared to 2020 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 in to 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 56,553m³.



2.3.4. The data in Figure 3 shows BAE Glascoed did meet the 2021 target. The observed water consumption in 2021 of 51,927m³ compared to 57,707m³ in 2020 demonstrates a decrease of 4.91%.

2.3.5. A water consumption target of 50,888.46m³ has been set for 2022 to improve on the observed environmental performance in 2021, representing a 2% decrease from the 2021 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 2021 related to gas, electricity and water consumption aiming to achieve a reduction of 2% for gas and electricity in comparison to 2021 forecast figures and 2% for water in comparison to 2020 actual performance.
- 3.2. BAE Glascoed did not achieve the set KPIs for electricity or gas consumption in 2021. This was predominately due to production recoveries from missed deliveries in 2020.
- 3.3. Following evaluation of the performance in 2021, new KPIs have been set for 2022. A reduction of 2% has been set for gas, electricity and water consumption against 2021 consumption data.
- 3.4. The performance of 2022 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.