



**GLASCOED MUNITIONS FACTORY,
USK, MONMOUTHSHIRE**

**Annual Improvement Targets
Summary Report –
Reporting Year 2020**

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.”

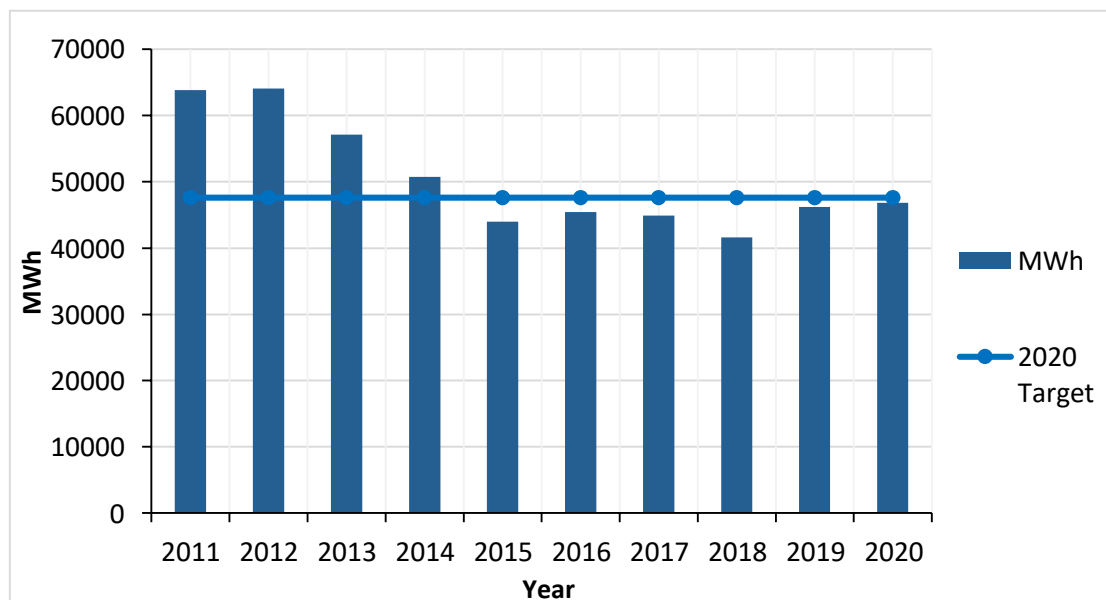
- 1.2. BAE Systems Glascoed Munitions Factory (“BAE Glascoed”) has an Integrated Management System (“IMS”) which includes the setting and monitoring of key performance indicators (“KPIs”) to achieve continual environmental improvement.
- 1.3. The summary report below discusses the set environmental KPIs, strategies undertaken to achieve the KPIs, the observed performance against each target in 2020 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 2020 compared to a forecast performance to ensure a realistic target to take account of an anticipated increase in production in 2020.
- 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. In 2020, BAE Glascoed have continued utilising the steam metering to establish targeted energy saving projects, with the aim to achieve a gas consumption reduction.
- 2.1.4. A gas consumption target of 48,078,800 kWh was set for 2020. This figure was a 2% reduction on the forecast of 49,060,000 kWh. It should be noted that the forecast for 2020 was increased compared to the actual 2019 consumption to take account of an anticipated increase in production.
- 2.1.5. Gas consumption for the last 10 years is shown below in Figure 1, together with the target of 48,078.8MWh.

Figure 1: BAE Glascoed Gas Consumption – 2011-2020

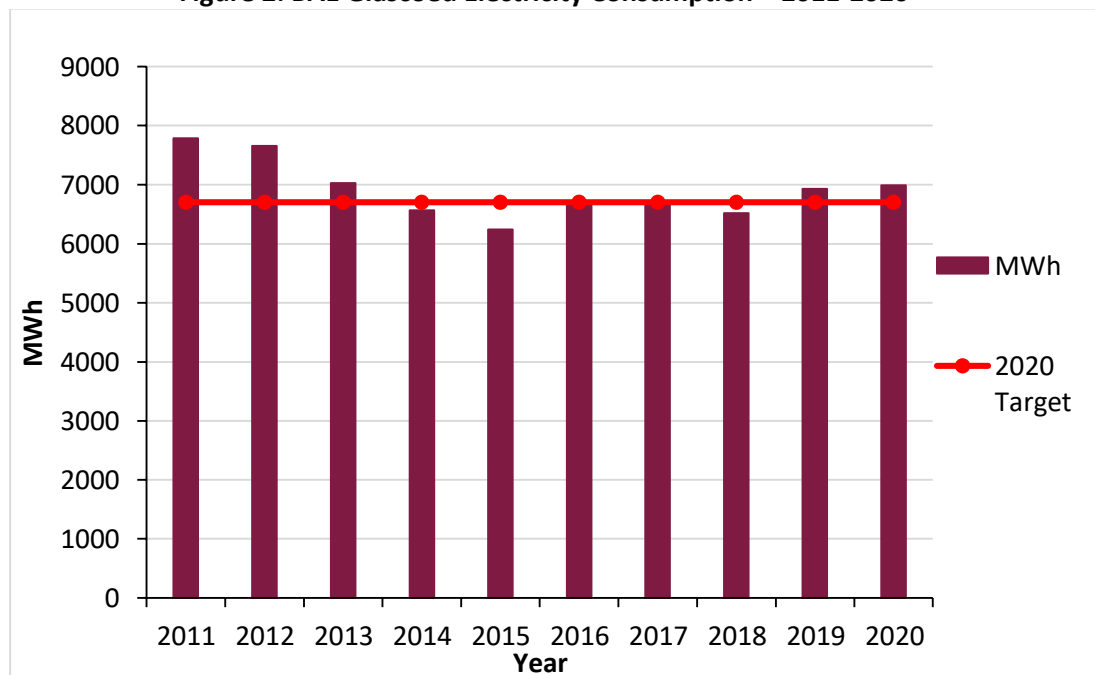


- 2.1.6. The data in Figure 1 shows BAE Glascoed achieved the 2% target set for 2020 when compared to the 2020 forecast value (accounting for the increase in production).
- 2.1.7. The actual gas consumption in 2020 of 46,827,307 kWh compared to the 49,060,000 kWh forecast figure for 2020 shows a 4.55% decrease, therefore, consuming less than the 48,078.8 MWh forecast target.
- 2.1.8. It is noted that actual gas consumption in 2020 has increased by 1.33% when compared to 2019 data, however the 2019 consumption is not considered representative of the 2020 site production.
- 2.1.9. The target of 45,890,760.5 kWh has been set for the year 2021, representing a 2% decrease from the 2020 measured data.

2.2. Electricity Consumption

- 2.2.1. BAE Glascoed set a target to reduce electricity consumption by 2% in 2020 compared to a forecast performance to ensure a realistic target to take account of an anticipated increase in production in 2020.
- 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 6,769,154 MWh.

Figure 2: BAE Glascoed Electricity Consumption – 2011-2020

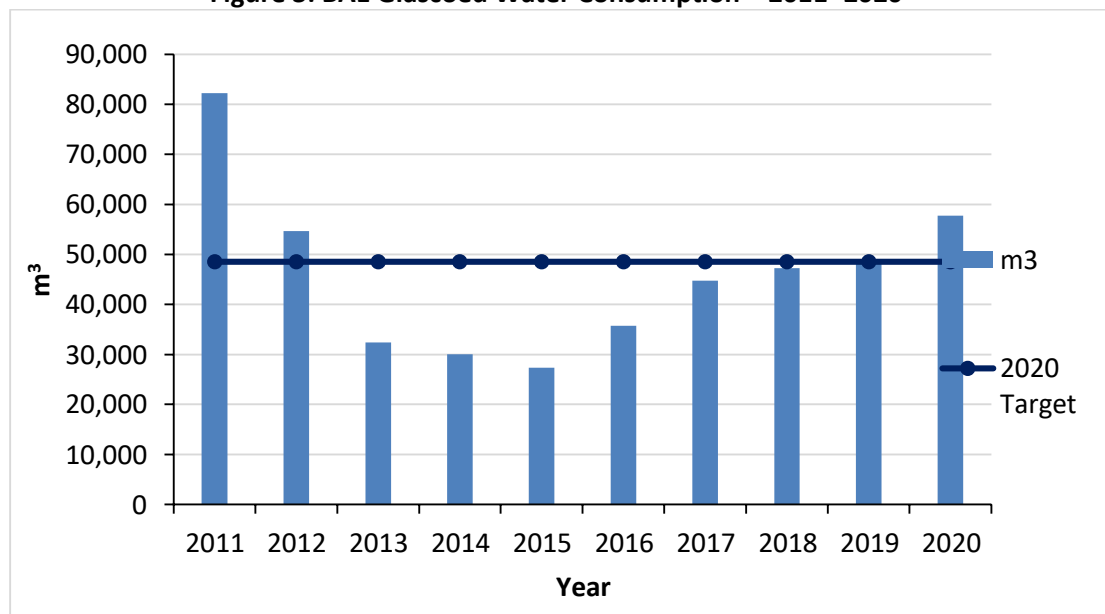


- 2.2.4. The data in Figure 2 shows BAE Glascoed did not meet the 2020 target of 6,769,154 kWh. The actual electricity consumption in 2020 of 6,990,276 kWh compared to the forecast (accounting for production increase) figure of 6,907,300 kWh shows an increase of 1.2%, therefore, BAE Glascoed were not able to meet the set KPI.
- 2.2.5. The reason for the electricity increase in consumption due to production issues mainly centred around 24 hour processing that was not on the original production schedule which resulted in tighter humidity controls.
- 2.2.6. 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 6,850,470 kWh has been set for the year 2021, representing a 2% decrease from the 2020 measured data.

2.3. Water Consumption

- 2.3.1. BAE Glascoed set a target to reduce water consumption by 2% in 2020 compared to 2019 performance.
- 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 48,506 m³.

Figure 3: BAE Glascoed Water Consumption – 2011- 2020



- 2.3.4. The data in Figure 3 shows BAE Glascoed did not meet the 2020 target. The observed water consumption in 2020 of 57,707m³ compared to 49,496m³ in 2019 demonstrates an increase of 16.59%.
- 2.3.5. Water leaks during October and November 2020 from Grp 6 and 5D1 made the target difficult to achieve. BAE has identified the water leaks on site and investigations are ongoing to prevent any additional losses.
- 2.3.6. A water consumption target of 56,553 m³ has been set for 2021 to improve on the observed environmental performance in 2020, representing a 2% decrease from the 2020 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 2020 related to gas, electricity and water consumption aiming to achieve a reduction of 2% for gas and electricity in comparison to 2020 forecast figures and 2% for water in comparison to 2019 actual performance.
- 3.2. BAE Glascoed did not achieve the set KPIs for water or electricity consumption in 2020. This was predominately due to water leaks from Grp 6 and 5D1, as well as increased production in 2020. BAE Glascoed are committed to the continual improvement of leak detection and the monitoring of the base load which is integrated into the Building Management System.
- 3.3. Following evaluation of the performance in 2020, new KPIs have been set for 2021. A reduction of 2% has been set for gas, electricity and water consumption against 2020 consumption data.
- 3.4. The performance of 2021 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.