IQE Newport performance review 2024.
Environmental Operating Permit
EPR/AB3893FZ

January 31

2025

Prepared on behalf of IQE Silicon Compounds.

[redacted].
Senior HSE Lead.

Introduction

This report has been prepared for Natural Resources Wales "*the regulator*" in line with the requirements of IQE Silicon Compounds "*the operator*" environmental operating permit EPR/AB3893FZ to satisfy permit condition 4.2.2.

General Information

This is the sixth report submitted by IQE since the issue of the operating permit by the regulator on 28/02/2019.

During 2024 IQE sites across South Wales have engaged with Achilles to maintain our accreditation to ISO 14064-1 with a recertification due February 2025. This year IQE has developed it's Science Based Target Initiative plan and has completed all preparatory work for the SBTi. We have received our targets but they are currently being worked through the senior levels of the organisation before group level objectives filter out from the report.

Business had slowed for 2024 due to us pulling work forward into 2023 and not being able to backfill the gap left by pulling it forward. There has been a major change at the executive level with an appointment of an interim CEO and COO. The strategy has changed slightly when coming to winning orders which we hope to see reflected in 2025 with a busier order book.

This year we have completed the commissioning of NP11 and NP12 which are out two new G5+ reactors that are aiming to support our expansion into the GaN wafer market which has it's uses in power generation, electric car charging, and energy efficient electronics for use in data centre, for example.

IQE are still exploring the possibility of facilitating Phosphine at Newport due to the announcement that we would be consolidating the IQE Europe and IQE Newport sites in the near future. The initial plan for this was set to late 2026 but due to needing to obtain an environmental permit change, hazardous planning consent, and upper tier COMAH application this is not likely to occur before 2028. I will continue providing update each year on the progress as it will significantly change the environmental risk profile of the site.

Monitoring Results (Condition 4.2.2 (a))

As per conditions of the permit IQE Silicon Compounds Newport has no requirement to publish any emission to air monitoring data for site on an annual basis. The only requirement, which has been met, was initial emissions to air reporting.

Annual reports of energy and water usage are required to be made on an annual basis, for year ending 2023 this has been done using NRW forms E1 for energy usage and W1 for annual water consumption. As per direction of the NRW Performance Form 1 has also been compiled for 2023 and submitted.

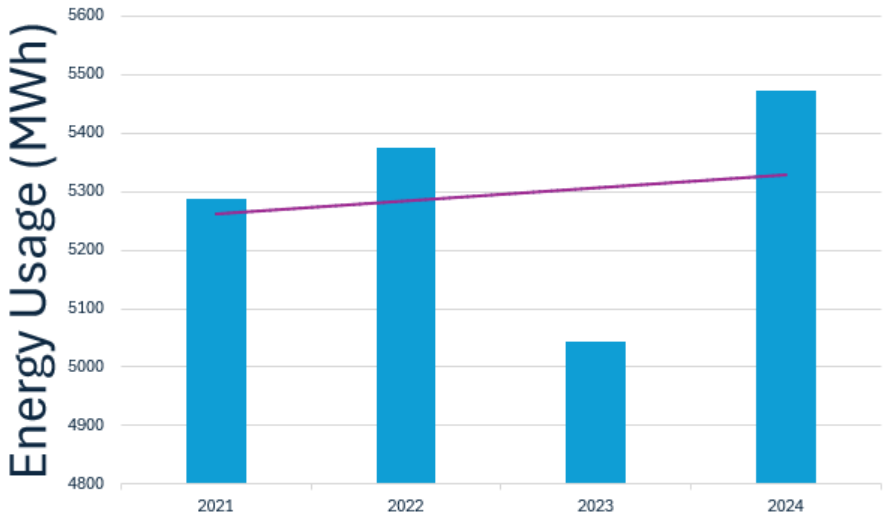
As per permit conditions IQE Silicon Compounds Newport will in the future when the second stack is commissioned and further reactors come on line have the emissions to air monitored via an MCERTS company.

In 2023 following permit condition 1.2.1.B IQE NP submitted its four yearly report detailing opportunities to increase energy efficiency, opportunities to improve the efficiency of raw material & water use. IQE also detailed in the report the efforts being made to reduce waste and its impact on the environment.

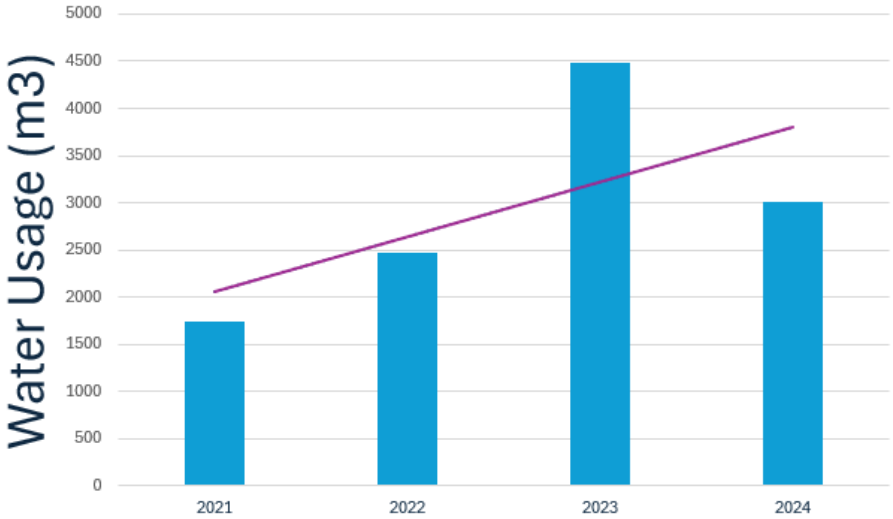
Data review

The following data tables show the comparison in utility & water usage at IQE Silicon Compounds Newport.

Taking into account the scaling of the energy usage graph we can see that it has stayed fairly consistent over the past few years. The trend line does indicate a slight increase in energy use year on year. While it doesn't account for the overall trend, the introduction of NP11/12 to Newport has increased the energy usage by introducing two new reactors. The increase isn't 20% due to introducing two reactors to a suite of ten due to the newer reactors being more energy efficient in their design. We have also introduced a new "hibernation" mode on the reactors which is the product of a project one of our engineers had been working on. Due to the nature of the reactors turning them off completely and rebooting when required introduces issues which has been reflected in previous projects looking at it. The amount of lost time trying to fix the issue did not outweigh the benefit. An IQE engineer put together the hibernation cycle which keeps reactors at 50% gas flow rate and 50% standard operating temperature which was introduced late 2024 so we expect to see that reflected further in 2025. We will be monitoring sub-metering in 2025 so will be able to give an exact figure on the benefit.



Water use has increased year on year for the past 4 year save the anomalous data point in 2023. In review over the past year with some investigations taking place the increase in water couldn't be accounted for due to any new on-site activities or any water leaks on site. The decrease could be attributed to the lower staffing levels. The 2024 figure seems more in line with the trending of the previous years which I believe is due to an increase in staff attending site as the work from home allowance has slowly dialled back. It is difficult to predict 2025 as we have had further redundancies but are mandating a 3-day from office work schedule for people that primarily work from home.



All water consumption figures are shown in m3.