Air Quality Around Mossmorran and Braefoot Bay 2023 – Summary Report

Image courtesy of SEPA

Monitoring has revealed no exceedances of air quality objectives in the areas around the Mossmorran and Braefoot Bay facilities, which includes ExxonMobil's Fife Ethylene Plant (FEP) and Shell UK Fife Natural Gas Liquids (NGL) Plant, in 2023. Levels of air pollutants remain within the objectives set by the Scottish Government to protect human health.

This conclusion comes from evaluating data collected by Scottish Environment Protection Agency (SEPA) and Fife Council at their air monitoring stations, along with additional data provided by INEOS along the Forth Estuary. SEPA's monitoring sites were chosen to reflect the location of residential communities, and includes a downwind site to represent the most exposed direction from the Mossmorran and Braefoot Bay facilities.

The quality of the air in the area is determined by measuring the amount of pollutants that are present. These pollutants can come from different sources or activities, including vehicles, industries, wood-burning and gas stoves. The measurements were compared to air quality objectives, which are set by the government to make sure the air we breathe is safe.

Pollutant	SEPA (8 monitoring sites)	Fife Council	INEOS
PM_{10}*	Highest annual mean found at Cowdenbeath: 11.0 µg m^{-3}	Highest annual mean found at Cupar: 13.2 µg m^{-3}	N/A
$PM_{2.5}$*	Highest annual mean found at Cowdenbeath: 8.9 µg m^{-3}	Highest annual mean found at Cupar: 6.4 µg m^{-3}	N/A
NO_2**	Highest annual mean found at Cowdenbeath: 14.9 µg m^{-3}	Highest annual mean found at Dunfermline: 25.9 µg m^{-3}	N/A
Benzene+	N/A	N/A	0.2 ppb

*PM_{10} and $PM_{2.5}$ are two different sizes of particulate matter. These are tiny particles which go deep into the lungs, affecting health in many ways.

**NO_2 is nitrogen dioxide, a gas that can affect lung health, causing irritation, especially for people with sensitive lungs.

+Benzene is a vapour known to be harmful to health.

In the table above, the highest average value out of all the monitoring sites is provided. The colours indicate whether any air quality objectives were exceeded. Green means the objective for that pollutant was not exceeded. No air quality objectives were exceeded. N/A indicates that no data were available. For more information on air quality objectives please see www.scottishairquality.scot/air-quality/standards.

How do emissions from the industries at Mossmorran and Braefoot Bay affect air quality?

Although operations at the Mossmorran and Braefoot Bay facilities produce air pollutants, all air quality remained good throughout the year.

Who evaluates air quality related to the Mossmorran and Braefoot Bay area?

The Mossmorran & Braefoot Bay Expert Advisory Group on Air Quality (AQ EAG) advises Fife Council on whether there are any air quality and related health impacts arising from operations at the Mossmorran and Braefoot Bay facilities.

The AQ EAG reviews air quality data collected from various sources, including air monitoring data from Fife Council, SEPA, INEOS, and emissions monitoring by ExxonMobil and Shell.

The AQ EAG also considers the potential impact that any major plant changes could have on air quality and liaises with representatives from community councils and the local health service.

This summary and the full report are independently developed by the Institute of Occupational Medicine (IOM) for the AQ EAG as required under the planning permits, and financed by the site operators. This summary has been approved by the Mossmorran and Braefoot Bay Community and Safety Liaison Committee's Expert Advisory Group on Communications. Fife Council covers costs of the administration of the Committee and constituent groups including the AQ EAG.

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For more information on the AQ EAG's reports, see **www.fife.gov.uk/kb/docs/articles/environment2/environmental-health/mossmorran-and-braefoot-bay**

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