



To: The Environment Agency's Regulated Industry Team
(sent via email to: PSCpublicresponse@environment-agency.gov.uk)

Environment Agency Reference: EPR/SP3127SF/A001

14th April 2025

UKWIN's comments on the proposed decision for a new bespoke application for an environmental permit from MVV Environment Limited for the Canford Energy from Waste Combined Heat and Power Facility, Canford Resource Park, Arena Way, Magna Road, Poole BH21 3BW

Thank you for this opportunity to provide comments on the Environment Agency's (EA's) Draft Permit and associated Decision Document for this environmental permit application, which is one that is recognised as being of high public interest.

Documents not available as part of the consultation

A number of key documents which were provided and made public as part of the original consultation were not provided as part of this second round of consultation despite being relied upon to inform the Draft Permit and associated Decision Document, and despite access to these documents being essential to enable consultees to understand and scrutinise the Draft Permit and Decision Document.

Unfortunately, the page at <https://consult.environment-agency.gov.uk/psc/bh21-3bw-mvv-environment-limited/> states "Consultation Unavailable" which means that this relevant context is no longer available for consultees.

This means that for example:

- The **Human Health Risk Assessment (HHRA)** is mentioned on pages 42 and 112 of the of the Draft Decision Document, but this is not on the EA website.
- The **Fire Prevention Plan** is mentioned on pages 17 and 114 of the Draft Decision Document, but this is not on the EA website.
- The **Site Condition Report** is mentioned on pages 14 and 104 of the Draft Decision Document, but this is not on the EA website.

In such circumstances, it would be reasonable for all such documents to be made available to the public as part of the draft permit consultation and for the consultation period to be extended.

Time period covered by the Human Health Risk Assessment

The Human Health Risk Assessment (HHRA) was undertaken based on 30 years of operation (Section 3.3 of the HHRA, March 2024).

This should be rerun for 40+ years in line with MVV's Environmental Statement Chapter 6: Air Quality, which notes:

"6.5.37 For the purpose of the [Decommissioning Phase] assessment, a working assumption has been made that the Proposed Development has an operational lifespan of 40-years. However, it should be noted that it is common for such developments to be operational for longer periods."

Plume Plotter

In response to "Concern over the impacts as shown on the Plume Plotter website" the Decision Document states (on pages 109 and 110) that:

"...there is no information on the website as to how the model was validated and we have not seen the model input parameters, and so cannot comment on the validity of the predictions..."

The webpage at <https://plumeplotter.com/canford/> includes an 'About' button which in turn links to two relevant pages that provide relevant information:

- At the <https://plumeplotter.com/canford/howitworks.php> webpage Plume Plotter explains various relevant input parameters in terms of stack measurements, emissions, background levels and pollutants (see attachment).
- At the <https://plumeplotter.com/howitworks.html> webpage Plume Plotter explains that Plume Plotter uses the validated AERMOD model to calculate the concentration of pollution at each location, at ground level and provides more detail regarding how this is modelled (see attachment).

Additionally, the research page of the website at <https://plumeplotter.com/news/> includes a document entitled 'Comparison between Plume Plotter and "official" pollution predictions' which shows that the modelling from Plume Plotter is in line with those from applicants with the main difference being the choice of weather data, observing that:

"If the predictions by "experts" are correct and Plume Plotter is correct, Plume Plotter's predictions should be roughly similar to the "expert" ones. (They will never be identical unless they use the same source of weather data for the same year(s), which is hard to achieve.)"

As noted on the website, the Environment Agency can also contact the operator of the website via a publicly available email address.

Latest literature: Evidence from Imperial and ToxicoWatch

On page 40 of the Decision Document we read how:

“UKHSA keep literature on health effects under review and would inform us if there were any changes to the above position. Similarly, we would consult UKHSA if new evidence was provided to us.”

And on Pages 110-111 of the Decision Document we read about:

“Concern that emissions to air will contaminate soil and water” and

“Concern over impacts from dioxins/furans including accumulation the food chain and via breast milk”

These pages also contain the responses from the Environment Agency, as follows:

“Soil and water will not become contaminated. This is evidenced by the health risk assessment that showed insignificant impact on the food chain and also the air quality” and

“The Applicant’s health risk assessment included consideration of accumulation in the food chain, including breast milk. The impact from dioxins/furans is described in more detail in section 5.3 of this decision document. We are satisfied that impacts will not be significant.”

Similarly, in the Decision Document’s penultimate page, in response to:

“Concern over burning wastes containing PFAS and PFOS”

the Environment Agency states:

“...We are not aware of any evidence that municipal waste incinerators are a significant source [\[of PFAS\]](#)”.

Such evidence has been provided to the Environment Agency in the past and was then dismissed because of the lack of peer-review.

Circumstances have now changed, and a copy of two peer-reviewed papers - *Biomonitoring of Metals in Children Living in an Urban Area and Close to Waste Incinerators* (2020) and *Introduction of Innovative Sampling Media for Biomonitoring of Environmental Loads of Persistent Organic Pollutants* (2025) - accompany this submission, alongside a series of studies that reveal alarming levels of dioxins, PFAS, and heavy metals in the environments surrounding waste incinerators, with the most recent studies (dated 2025) providing evidence pertaining to the environments surrounding waste incinerators in Spain, France, and The Netherlands.

Conducted by the independent ToxicoWatch Foundation with support from Zero Waste Europe, the findings show that the areas around Waste-to-Energy (WtE) incineration facilities are contaminated, posing risks to public health, ecosystems, and food safety.

The 2025 studies, conducted near WtE incineration facilities in Paris, Harlingen, and Zubieta, revealed widespread and dangerous levels of contamination in soil, water, vegetation, and even food such as farm eggs.

Dioxin levels in moss, soil, and backyard chicken eggs exceeded EU limits at all three sites, with serious concerns for one sample site in Paris' Ivry-sur-Seine district, a schoolyard playground. In Harlingen, PFAS concentrations in water were recorded at 138 times the Dutch legal drinking water threshold, while in Zubieta, a backyard egg sample from Hernani showed the highest dioxin levels found by the ToxicoWatch Foundation in Europe over the past 13 years. Heavy metals including lead, mercury, and arsenic were also detected in areas close to homes, parks, and schools.

In Zubieta, located in Spain's Basque Country, the situation is just as stark. A backyard egg sampled in Hernani contained 38 pg TEQ/g fat — over 10 times the EU legal limit — representing the highest dioxin reading recorded by ToxicoWatch in Europe.

Moss samples show dioxin concentrations up to 300 times higher than baseline levels measured before the incinerator began operating in 2020. PFAS and heavy metals were also found in water, moss, and soil.

In Paris, soil and moss samples taken near schools and public spaces in Ivry-sur-Seine showed dioxin levels above EU safety thresholds. One such site, the Jardin des Plantes — a central Parisian park located 2.5 km from the incinerator — was found to be contaminated.

This adds to growing evidence of exposure in urban settings, particularly affecting vulnerable populations such as children. France's national health agency has already confirmed that backyard chicken eggs in the region are too polluted to consume, due to dioxins and PFAS.

In Harlingen, the Netherlands, PFAS levels in eggs were found to be comparable to those found near a major fluorochemical plant — despite no such industry operating nearby.

One water sample recorded PFAS concentrations 138 times the Dutch legal limit, and dioxin levels in soil have increased sevenfold since 2013. Heavy metals such as mercury and lead were detected in mosses at levels that exceed thresholds associated with significant health risks.

This submission is accompanied by some of these 2025 reports, including:

- Zubieta, Basque Country Biomonitoring Report (2025):
<https://zerowasteeurope.eu/library/the-true-toxic-toll-biomonitoring-report-in-zubieta-spain/>
- Ivry-sur-Seine, Paris Biomonitoring Report (2025):
<https://zerowasteeurope.eu/library/the-true-toxic-toll-biomonitoring-report-in-paris-france/> and

- Harlingen, Netherlands Biomonitoring Report (2025):
<https://zerowasteeurope.eu/library/the-true-toxic-toll-biomonitoring-report-in-harlington-the-netherlands/>

We note that additional reports also accompany this submission, with further reports available at: <https://www.toxicowatch.org/blank-1>

One of the most important of these is the article published in the current (April 2025) edition of the peer-reviewed Sampling Science & Technology journal:

Arkenbout, A., Bouman, K. J. & Esbensen, K. H. (2025). Introduction of Innovative Sampling Media for Biomonitoring of Environmental Loads of Persistent Organic Pollutants (POPs). Sampling Science & Technology, April 2025(3), 2-25.
<https://doi.org/10.62178/sst.003.002>

We also direct the EA and the UKHSA to the article published in the Guardian newspaper at <https://www.theguardian.com/environment/2024/dec/18/study-examines-womens-proximity-to-incinerators-and-chemical-level-in-breast-milk> entitled: "Concern over impacts from dioxins/furans including accumulation the food chain and via breast milk."

This article relates to the study at <https://www.sciencedirect.com/science/article/pii/S0013935124024927> entitled:

Polychlorinated dibenzo-dioxin/furan and polychlorinated biphenyl concentrations in the human milk of individuals living near municipal waste incinerators in the UK: Findings from the Breast milk, Environment, Early-life, and development (BEED) human biomonitoring study

As neither the EA nor the HSA maintain a public record of the studies considered, we cannot say which of these studies have been reviewed by either the EA or the UKHSA, and we therefore ask that the EA does not issue an environmental permit for this or for any other waste incinerator until the implications of the findings of these studies are carefully and comprehensively considered.

This assessment should include a consideration as to whether to require soil sampling before and during the operation of the proposed Canford incinerator and whether or not it would be justified to increase the frequency of monitoring for dioxin levels and/or to impose stricter dioxin limits.

While not a new study, we note that the Environment Agency's 2007 UK Soil and Herbage Pollutant Survey (UKSHS Report No 10) noted "significant elevations in dioxin concentrations compared with rural herbage" around UK incinerators (see excerpt overleaf).

“When viewed across the whole industrial dataset, dioxin concentrations in herbage show no evidence of a significant footprint. However, two groups of processes – the chemical industry and **waste incineration** – differ from the others. Both show **significant elevations in dioxin concentrations compared with rural herbage**. The data for chemical industry sites are limited and should be viewed with caution; the data for incineration are more robust , but are puzzling as emission monitoring data suggest dioxin emissions from incinerators are now very low.”

The possibility that high levels of dioxins found around UK waste incinerators but not picked up by monitoring or modelling could be due to shortcomings in the current dioxin monitoring regime and/or dispersion modelling.

Given the findings elsewhere in Europe, and the Imperial College London study here in the UK, it appears that further consideration should be given to these historic findings of puzzlingly high levels of dioxins near incinerators in the UK.

Yours sincerely,

Shlomo Downen
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