THE TRUE TOXIC TOLL OF WASTE INCINERATION

In Europe, waste incinerators are often promoted as a safe way to dispose of our waste, both for human health and the environment. Our biomonitoring research across Europe proves that incineration is unsafe for the environment and human health.

The Situation

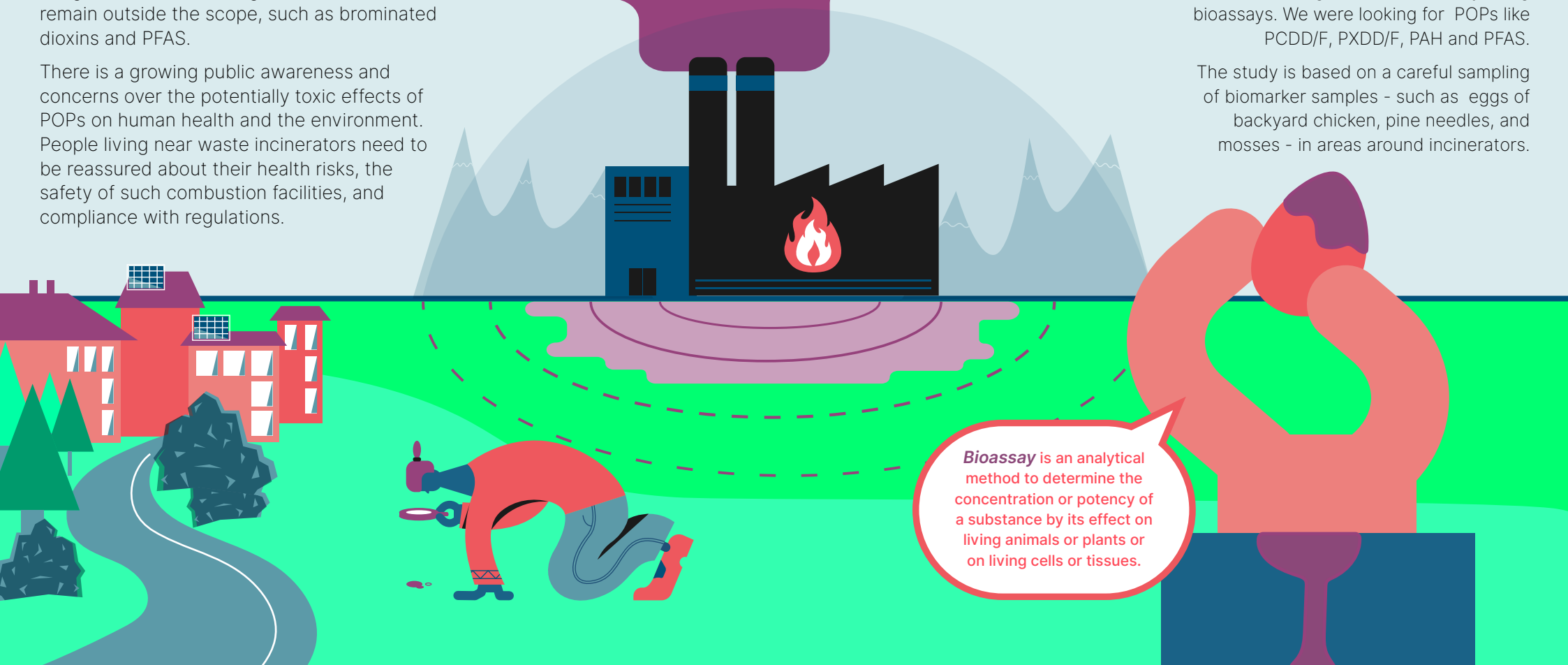
Mandatory measurements for waste incineration relating to toxic pollutants is limited, and their measurement is not representative of real emissions. Many dangerous Persistent Organic Pollutants (POPs) remain outside the scope, such as brominated dioxins and PFAS.

There is a growing public awareness and concerns over the potentially toxic effects of POPs on human health and the environment. People living near waste incinerators need to be reassured about their health risks, the safety of such combustion facilities, and compliance with regulations.

The Biomonitoring Project

To assess the real impact of waste incineration on human health and the environment, our biomonitoring research analysed the presence of persistent organic pollutants (POPs) in biomatrices in the surroundings of incinerators by using bioassays. We were looking for POPs like PCDD/F, PXDD/F, PAH and PFAS.

The study is based on a careful sampling of biomarker samples - such as eggs of backyard chicken, pine needles, and mosses - in areas around incinerators.



Bioassay is an analytical method to determine the concentration or potency of a substance by its effect on living animals or plants or on living cells or tissues.

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This research analysis around 3 waste incinerators shows an environment under threat by contamination of substances of very high concern in eggs of backyard chicken, pine needles, and mosses. Here's what we found:

	1 KAUNAS (LITHUANIA)	2 PILSEN (CZECHIA)	3 VALDEMINGOMEZ (SPAIN)
Eggs	83% of the sampled eggs exceed the EU action limits for food safety. 33% of sampled eggs exceed the EU action limit for dl-PCB. Since those eggs are produced for consumption there is a significant health risk.	89% of the sampled eggs do not comply with the EU limit for dioxins in eggs. 50% of eggs sampled do not comply with the EU limits for safe food consumption. 75% of eggs exceed the EU action limit for dl-PCB and 38% for PCDD/F. High levels of PFAS in eggs.	Eggs do not comply with the EU limits for dioxins and dioxin like PCB for safe egg consumption. Since private consumption of backyard chicken eggs could be high, this poses a serious health risk.
Pine needles	75% of pine needles have elevated dioxin (PCDD/F) levels in comparison with the reference source.	High elevation of dioxins in pine needles compared to the reference source (3x). Very high elevation of PAH in pine needles (87x) in comparison to the reference source.	High levels of dioxins (PCDD/ found in pine needles (75x) in comparison with the reference source. Remarkably high are the levels of PFAS contamination in the Aleppo pine needles (10x) in comparison with the reference source.
Mosses	High levels of dioxins in mosses. High levels of PAH in mosses. High levels of Benzo[a]Pyrene in mosses.	High elevation of dioxins in mosses (7x) compared to the reference source. High levels of PFAS in mosses.	The results of the dioxin analyses in the mosses show strongly elevated dioxins (20x) and dl-PCB (50x) in comparison with the reference source.

KEY FINDINGS

★ The majority of eggs analysed exceed the EU action limits for food safety as regulated in the EU Regulation 2017/644.

★ A high percentage of eggs exceed the safe level for consumption. If these eggs were intended for the commercial market, they should have been withdrawn from the market.

★ The analysis of the vegetation, pine needles and mosses also show high elevation of dioxin levels in the vicinity of the waste incinerators. This means people living in the vicinity of incinerators could be harmed if they grow vegetables for consumption.

FINAL RECOMMENDATIONS

Make biomonitoring research mandatory for all existing incineration projects across Europe - communities living near waste incinerators need to be reassured about the health and safety risks of all operation stages of an incinerator.

Put a moratorium on new waste incineration projects and develop phase-out plans for the existing ones.

Promote and fund **circular, healthy, sustainable alternatives** to waste incineration.

THE TRUE TOXIC TOLL

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