27 April 2023

About the investigation

Europe has a problem with plastics.

bottles and toothpaste tubes. And our

Cheap, versatile and in constant

production, plastic is in our milk

seas, fields and streams. Can EU

this mounting waste crisis?

plans for a circular economy tackle

Wasteland

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up being incinerated, releasing a cocktail of toxic chemicals -as well as CO2. Modern systems have advanced but experts warn complacency is wrong. One of the scariest but less noticed consequences of the energy crunch, last autumn, was an emergency measure considered by the German government. It

Most plastics are either too contaminated to recycle or become so after a few recycling loops. They end

allowed waste incinerators to function without filters, due to a looming shortage of the necessary chemicals. This nightmare was averted, but the vulnerability of

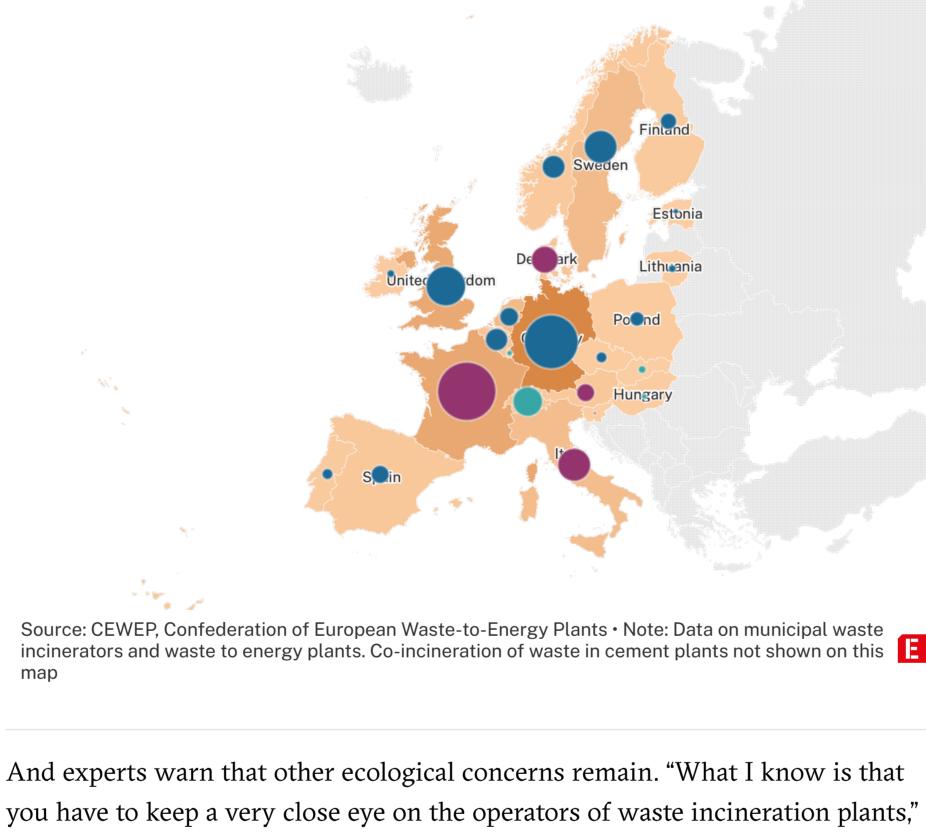
a waste-disposal system that many consider as the golden standard, became apparent. A staple on protest placards across Europe in the 1990s, environmental concerns around waste incineration have largely drifted away as modern systems eased pollution fears. A big part of the 30 million tonnes of plastic waste generated every year in Europe is incinerated, and most nations burn more plastics now

than a decade ago. This is set to rise as landfilling is abandoned and dozens of new plants are planned in Poland and Czech Republic. Energy and heat production is seen as a concrete benefit for local communities, although the amounts are relatively small (2.5 per cent of Europe's energy comes from incinerators). When incinerated, plastics are worse climate-killers than coal (2.9 tonnes of CO2 per tonne versus 2.7 tonnes of CO2 per tonne of coal).

**Europe burns its way out of its waste problem** Even countries with fewer incinerators in 2020 than in 2010 are burning more waste than the decade before. Number of incinerators and volumes of waste burned in European countries, 2010

-2020 Number of incinerators in 2020: Increase from 2010 Same as 2010

■ Decrease from 2010 Waste burned in 2020 (million tonnes) 0.17



says Günter Dehoust, senior researcher at the Öko-Institut in Germany, home to one-fifth of Europe's 500 or so waste incinerators.

Investigate Europe found three gaping, EU-sized loopholes that can allow

incinerator pollution to remain hidden. The German government was actively involved in creating at least one of these loopholes. 'False perception of safety' The first centres on how incinerator pollution is measured: mostly in stable

conditions, rarely during startups and shutdowns, even though it is widely documented that these are the instances where most pollution can be emitted. When the EU-wide guidelines for waste incineration were last revised, in 2019, something remarkable happened.

"In our working group, we fought for dioxin and furan emissions to be measured continuously across Europe," says a source present in the discussions.

"The French and Belgian governments also supported this. The German Federal Environment Agency ultimately blocked this." Dioxins and furans are probable carcinogens emitted mainly when plastics containing chlorine, like PVC, are incinerated. When supplied with the right chemicals, modern filters capture most dioxins, a great improvement from past performance. Marcus Gleis, head of

the German delegation, says that relevant data was shared late by French representatives. "There was no time to examine it," he says.



incinerator plants, CEWEP, says pollution is adequately measured. "We are very proud of the environmental performance of Waste to Energy [WtE] plants in Europe".

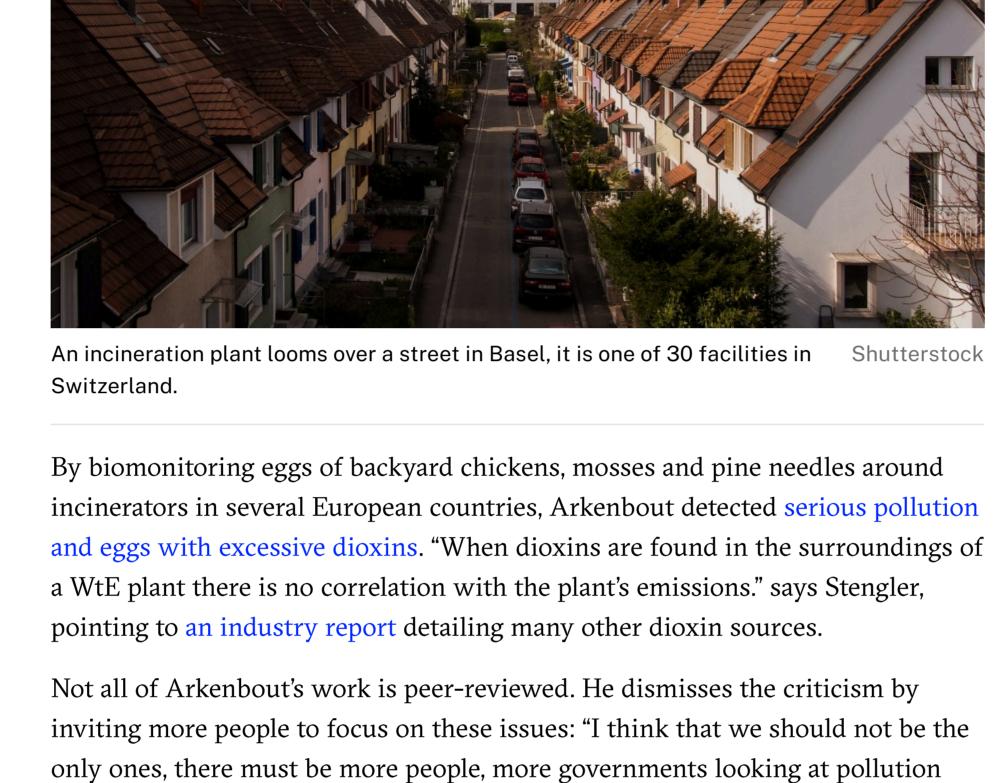
Dr Ella Stengler, managing director of the European umbrella organisation for

Monitoring hazards Secondly, only a few chlorinated pollutants are measured. PFAS (toxic compounds containing fluorine, also known as 'forever chemicals' because they don't break down) are not measured, despite every waste incinerator in Europe being listed among presumed PFAS contamination sites. "Many of the products we use in our everyday life contain PFAS and, when these products become waste, there are not many treatment routes available that would avoid spreading

these substances." Stengler adds. "There is no certified measuring method for PFAS yet." And thirdly, regulations do not mandate monitoring the effects of incinerator pollution on living organisms around incinerators, or products like milk and eggs. Tests are performed only to detect the release of a limited range of

chemicals in the environment. This could widely underestimate the real effects

of toxic cocktails accumulating in cells over time.



operators are legally required to communicate data to their competent authority for compliance assessment. In turn, competent authorities are legally required to make the relevant data available to the public, it is therefore openly accessible" Yet activists have faced numerous legal battles all over Europe trying to access such data.

An example comes from Volos, a port city at the foot of the mythical Mount

year old cement factory, now run by Lafarge/Holcim using 185,000 tonnes of

waste as fuel every year. (This process of fueling in the production process with

Pelion, in central Greece. A lush hill separates the charming city from a hundred-

CEWEP's Stengler says the industry is committed to transparency. "The

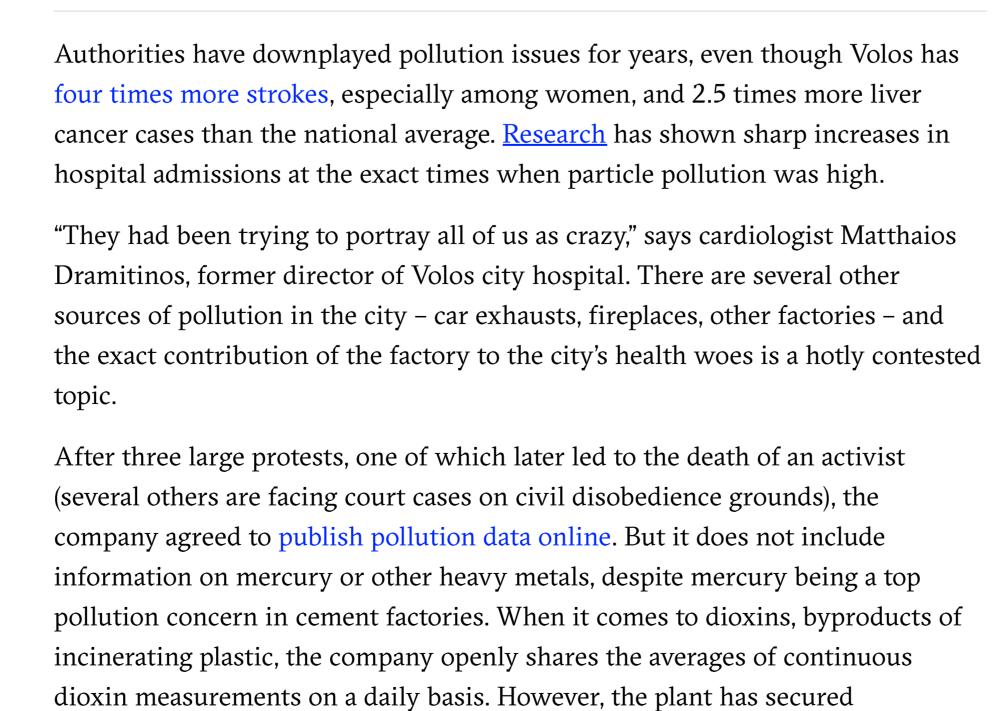
around incinerators."

Activists fight for access

waste is called co-incineration).

the region.

Activists argue that the Volos cement factory is linked to health concerns in Shutterstock



permission to switch to burning natural gas, rather than plastic waste, when,

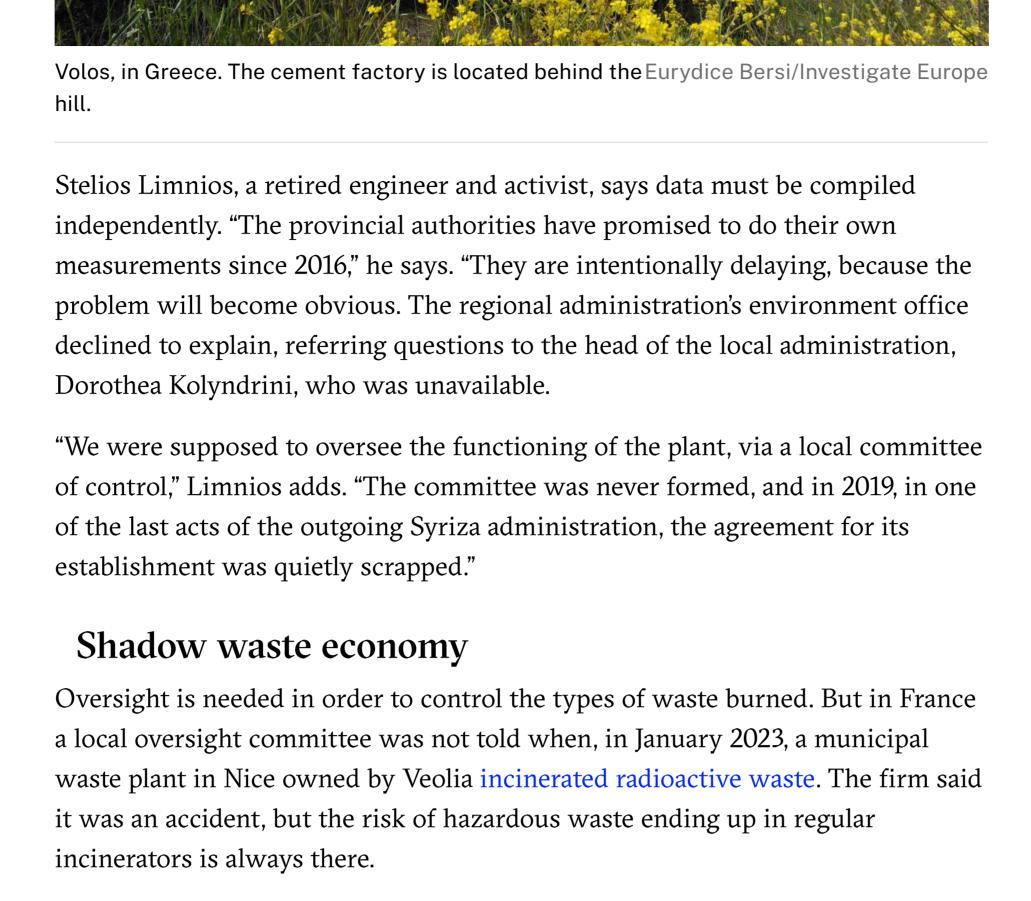
technically best practice, changing the landscape in the sector, significantly

accelerating Europe's path towards climate neutrality," a Lafarge/Holcim

"The use of alternative fuels is clearly a safe environmental option and

once a year, a certified firm takes dioxin readings.

spokesperson said.



problem has grown since 2018. That was when China, until then the dumping ground of the entire planet, banned the import of most problematic types of waste. When combined with lax emissions monitoring, incineration in an established facility is an attractive way to get rid of troublesome waste at a fraction of the cost of proper treatment. It is also profitable for the plants burning the waste. When Romanian prosecutor Teodor Nita asked a politician why there is no serious crackdown on waste smugglers, the answer left him speechless. "We can't do this because it will anger the cement manufacturers and

they have a strong lobby," Nita recalled according to a Deutsche

Welle <u>investigation</u>.

Europol points out there is a large shadow economy trading in illegal waste. The

But incineration itself also produces problematic waste. For every tonne of incinerated waste, around 300kg of bottom ash, laden with toxic substances, is produced. "In Germany it is allowed to use bottom ash from incinerators in road construction, under the asphalt. It makes my stomach ache" says Peter Gebhardt, one of Germany's foremost incineration experts. "Rainwater can seep in and toxic pollutants can leach to the environment" he says. Gebhardt's fear was confirmed by a Dutch report detailing pollution when bottom ash comes in contact with water.

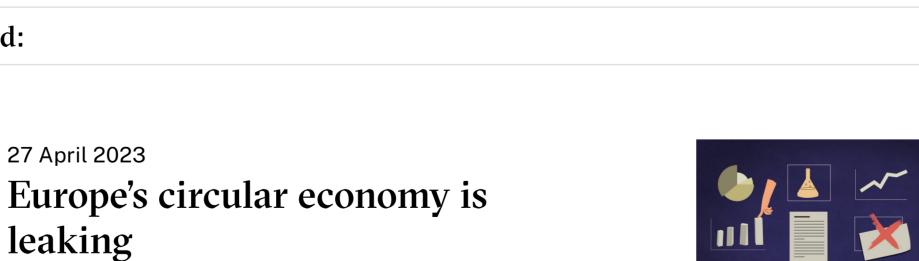


In Germany, bottom ash is used on roads under the tarmac, Thomas Kohler/Flickr CC BY 2.0

which, in contact with water, can lead to leakages to the surroundings. Industry claims that incineration is part of the circular economy and points out that very few plastics can actually be recycled. They argue it is the best available

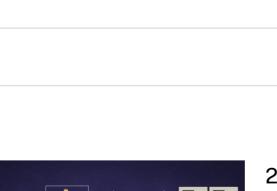
way to shrink the plastics mountain, while also reclaiming materials such as metals embedded in different kinds of waste - all while producing limited amounts of heat and electricity. Whatever it is, a circle or a straight line, it leaves a distinct, toxic signature. One that many people would rather not look for, out of fear that the alternatives are worse. Editor: Chris Matthews This investigation has been supported by Journalism Fund Europe's Earth Investigations

Programme. More from #Wasteland:



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By Attila Kálmán Investigate Europe calculated some striking statistics from this sea of incineration, plastic waste, plastoc, pollution