

# Explanation of Key Trends - Persistent Organic Pollutants



Please note: Data for persistent organic pollutants may have issues such as missing sources. It features considerably higher uncertainties than data for other pollutants covered in this report. [Read more...](#)

## Obligations

The 1998 Aarhus Protocol on Persistent Organic Pollutants under the CLRTAP entered into force late in 2003. It focuses on a list of 16 substances that have been singled out according to agreed risk criteria. The substances comprise eleven pesticides, two industrial chemicals and three by-products/contaminants. The ultimate objective is to eliminate any discharges, emissions and losses of POPs.

The Protocol bans the production and use of some products outright (aldrin, chlordane, chlordecone, dieldrin, endrin, hexabromobiphenyl, mirex and toxaphene). Others are scheduled for elimination at a later stage (DDT, heptachlor, hexachlorobenzene, PCBs).

Finally, the Protocol severely restricts the use of DDT, HCH (including lindane) and PCBs. The Protocol includes provisions for dealing with the wastes of products that will be banned. It also obliges Germany to reduce its emissions of dioxins, furans, PAHs and HCB below their levels in 1990. For the incineration of municipal, hazardous and medical waste, it lays down specific limit values.

## Main drivers

Persistent organic pollutants give a mixed picture both in terms of development and sources.

All POP emissions **decreased substantially between 1990 and 2021**:

- Dioxins (Teq) by 86%,
- PCBs by 87%,
- HCB by 99.8%

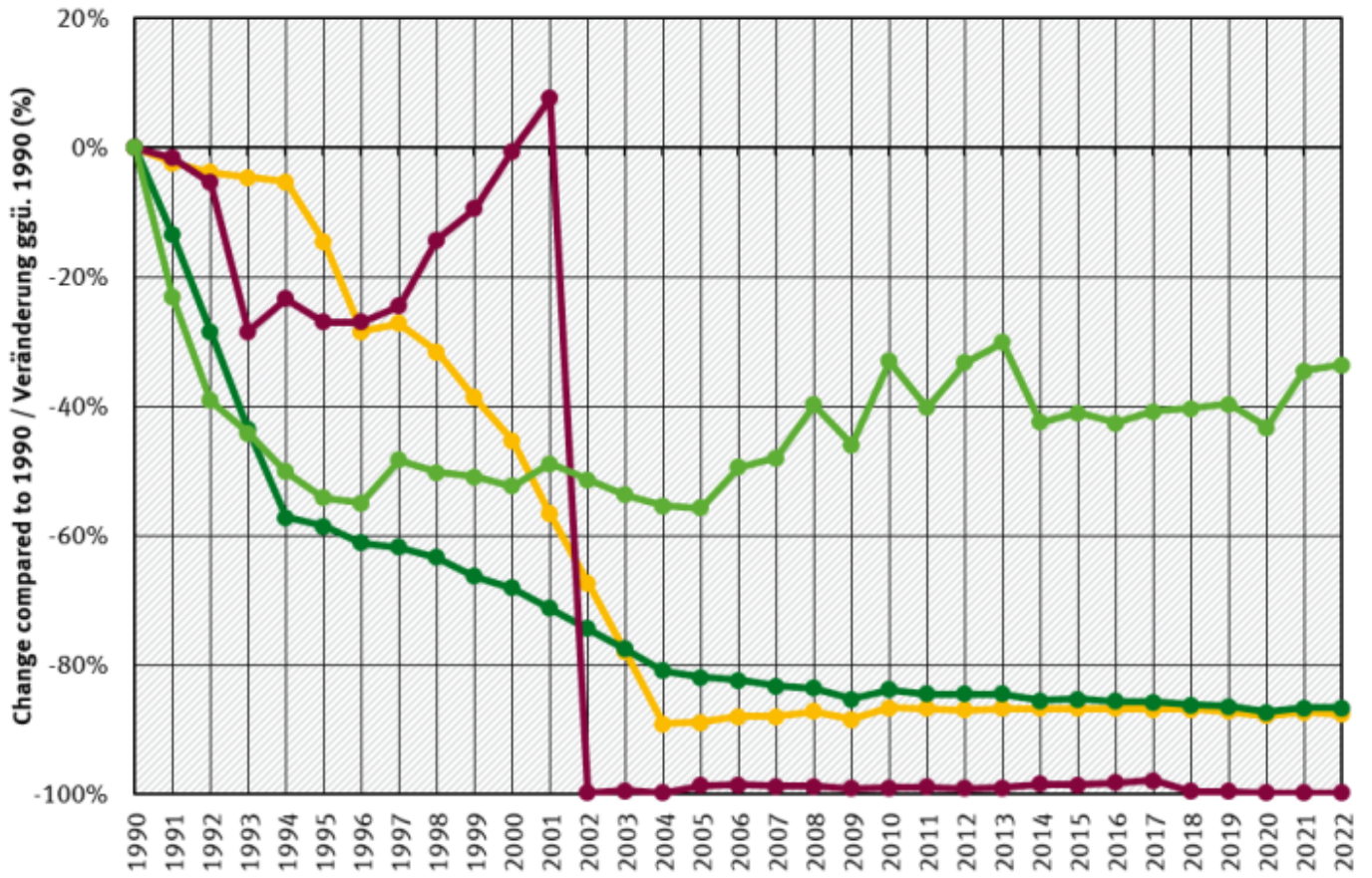
and

- the PAH Total by 72%

However, uncertainties are significantly higher than for the other air pollutants reported.

## Trends

The figure below shows trends for the main groups of persistent organic pollutants:



PCB      Dioxine (Teq)      HCB      PAH Total

POP emission trends