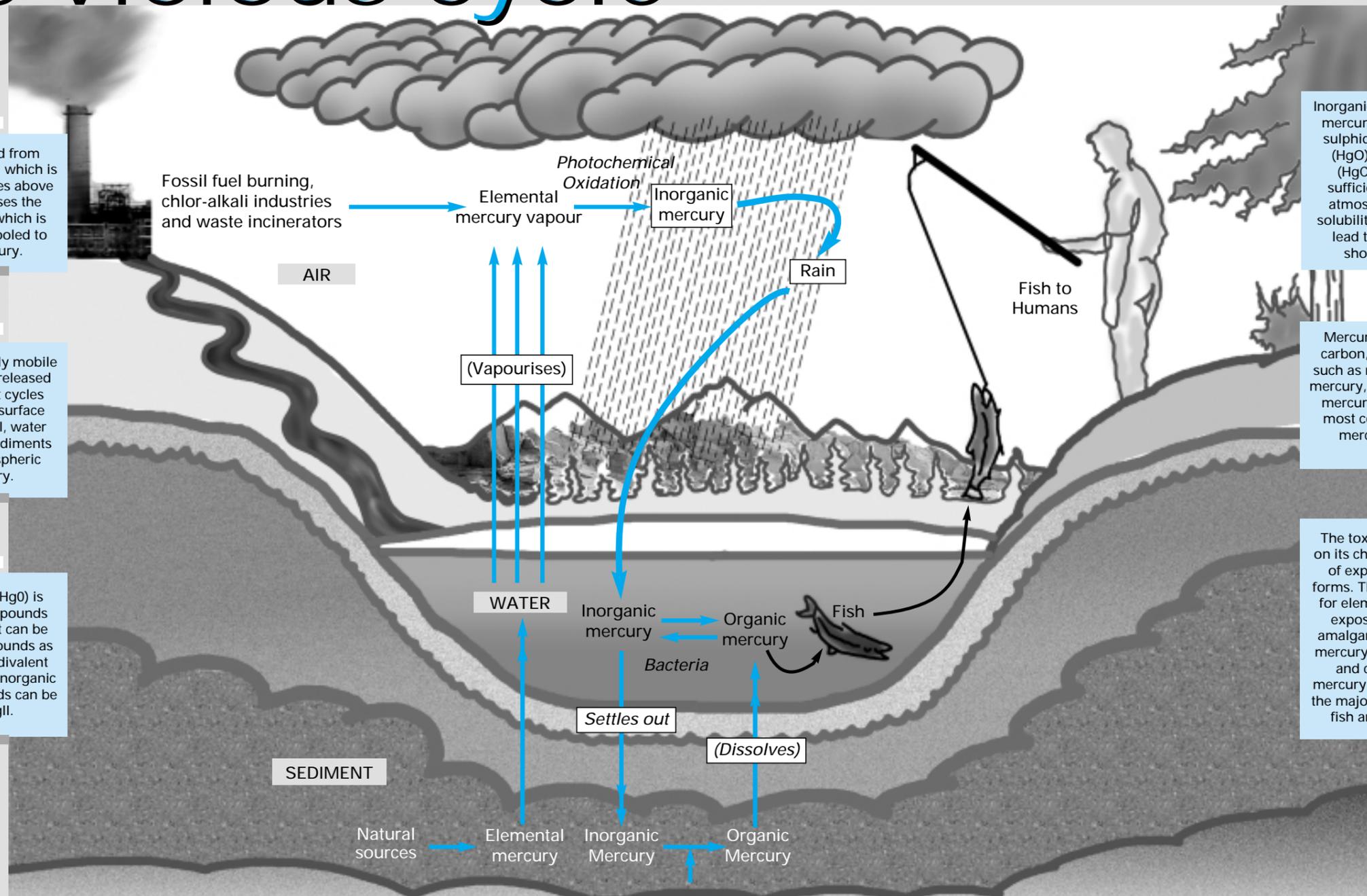


# The vicious cycle

Mercury is extracted from mercuric sulphide ore, which is heated to temperatures above 540°C. This vapourises the mercury in the ore, which is then captured and cooled to form liquid mercury.

Mercury (Hg) is a highly mobile substance. Once it is released into the biosphere, it cycles between the earth's surface and atmosphere. Soil, water bodies and bottom sediments are the primary biospheric sinks for mercury.

Elemental mercury (Hg<sub>0</sub>) is usually found in compounds and inorganic salts. It can be bound to other compounds as monovalent (Hg<sub>I</sub>) or divalent (Hg<sub>II</sub>) mercury. Many inorganic and organic compounds can be formed from Hg<sub>II</sub>.



Inorganic mercuric compounds, or mercury salts, include mercuric sulphide (HgS), mercuric oxide (HgO) and mercuric chloride (HgCl<sub>2</sub>). Some of them are sufficiently volatile to exist as atmospheric gas. Their water solubility and chemical reactivity lead to rapid deposition and shorter atmospheric life.

Mercury, when combining with carbon, forms organic mercury, such as methyl mercury, dimethyl mercury, phenyl mercury and ethyl mercury. Methyl mercury is the most commonly found organic mercury compound in the environment.

The toxicity of mercury depends on its chemical form. The sources of exposure vary for different forms. The most important source for elemental mercury vapour is exposure at work and dental amalgam. Exposure to inorganic mercury can happen through diet and cosmetics. For organic mercury, such as methyl mercury, the major source is diet, especially fish and other aquatic foods.

Source: Global Mercury Assessment, UNEP/CGEIC