

## **Industrial pollution prevention and control in Europe, regulatory aspects and challenges**

Simon Gutierrez Alonso, Joint Research Centre, European Commission

### **Abstract:**

Chemicals used in European industrial installations are primarily regulated under REACH. Additionally, substances and products used in disinfection and preservation are covered by other sector-specific regulations. The water framework directive also establishes limits on the emission of certain chemicals. Despite significant progress in recent decades, industrial pollution still contributes to thousands of deaths in Europe. The effectiveness and interaction of these regulatory schemes have a significant impact on human and environmental health. The European Green Deal aims to achieve zero pollution in the coming years, necessitating substantial efforts to enhance existing regulations, improve efficiency, and ensure harmonious coexistence.

### **Summary:**

REACH establishes procedures for collecting and assessing information on the properties and hazards of substances. Companies need to register the substances they manufacture above 1 tonne a year and to do this they need to work together with other companies who are registering the same substance. The European Chemicals Agency (ECHA) and the Member States evaluate the substances based on their hazardous properties and the likelihood of exposure following different pathways (substance evaluation, authorisation and restriction) to come up with different regulatory consequences.

Sector specific regulations such as the Biocidal Products Regulation (BPR) is based on similar principles though the substance registration and evaluation is followed by an authorisation of the product to enable formulators putting products in the market.

The water framework directive (WFD) works in a slightly different way. The WFD includes in its Annex X the list of priority substances that Member States must monitor in surface waters, but the standards for them are set in the Environmental Quality Standards Directive (EQSD) and must be met to achieve good surface water chemical status in accordance with WFD Article 4 and Annex V point 1.4.3. The WFD also requires Member States to set and meet Environmental Quality Standards (EQS) for substances of national concern, i.e. river basin specific pollutants; the monitoring of which currently contributes to the assessment of ecological status. This list of priority substances needs to be reviewed, and updated if necessary, every 6 years.

On the other hand, the Industrial Emissions Directive (IED) is the main EU instrument regulating pollutant emissions from industrial installations. The main instrument for setting the emissions limits are the best available techniques (BAT) reference documents (BREFs). These documents represent the outcome of the 'Sevilla process'. The BREFs cover large-scale agro-industrial activities included in Annex I to the Industrial Emissions Directive (2010/75/EU), i.e. some 52 000 installations EU-wide. Each BREF contains a specific chapter on BAT conclusions, which comprise a short description of the best available techniques identified, their applicability and associated emission or consumption levels. BAT conclusions are subsequently adopted by a Committee procedure and published in the Official Journal of the European Union. They provide the reference for setting emission limit values and issuing operating permits for industrial installations in EU Member States. Often, the pollutants covered in the BREFs are chemicals that are also regulated under other EU regulations.

This presentation explores the current regulatory frameworks for addressing industrial pollution, their interplay, existing challenges, and potential pathways for enhancement.