Proposed KPIs for the Chemicals Strategy for Sustainability

Pre-amble

The Chemicals Strategy for Sustainability requires the creation of ''*Key Performance Indicators to measure the industrial transition towards the production of safe and sustainable chemicals*''.

The chemical industry in Europe has a long history in sustainability reporting, both from an industry perspective, through the Responsible Care® Programme, in the context of the World Business Council for Sustainable Development (WBCSD), or as companies individually. For example, the WBCSD has articulated how the Chemical Sector can contribute to the delivery of the UN Sustainable Development Goals and the chemical industry has been very creative in developing indicators to report their progress towards the SDGs. The Chemical Sector has identified 10 priority SDGs, including SDG 9 (Industry innovation and infrastructure), SDG 12 (Responsible consumption and production) and SDG 13 (Climate Action). The Chemical Sector creates an immense variety of products that interact with virtually every aspect of our lives. The Chemical Sector value chain, therefore, covers a diverse range of chemicals and products made from chemicals, from basic chemicals via formulated products and materials to final products.

Ideally the Key Performance Indicators should cover the entire value chain: not only production of chemicals, but the entire value chain from production of base chemicals through formulated products and materials to final products, their use downstream and the disposal (or recycling) of the final products. In other words, apply a full life cycle approach and identifying ''*Key Performance indicators that measure the transition towards* ***safe and sustainable chemical value chains.''***

Against this background, it should be noted that following Key Performance Indicators (KPIs) as proposed by the European Federation for Construction Chemicals (EFCC), representing a chemical sector manufacturing formulated products, should be seen as a ***proxy*** for monitoring the above-mentioned industrial transition. Many of the following KPIs also allow monitoring progress with respect to Europe's goal to become the world's first climate-neutral continent, which is at the heart of Europe's Green Deal, and Europe's Circular Economy Principles Action Plan.

Key Performance Indicators (KPIs)

KPIs that would enable measurement of the transition towards safer and more sustainable chemical value chains, could include the following:

1. **Volume of all chemicals produced and consumed in the EU. (baseline)**
   The volume of chemicals produced and consumed in the EU could provide a reference for other indicators to show how a particular indicator progresses over time. *(The basis could be the data reported by Eurostat).*

2. **Direct economic value generated and distributed (or added value) by chemicals in the EU. (baseline)**
   The direct economic value could provide the reference for other indicators to show how a particular indicator progresses per unit of direct economic value. *(The basis could be the Value Added reported by Eurostat for the chemicals, rubber and plastics industries).*

3. **The use (consumption) of chemical substances that are restricted in the EU. (ref. Safety)**
   The volume of substances that are restricted in the EU would cover only those substances that are subject to a restriction according to Annex XVII to REACH and respect the conditions of the restriction, i.e. not including applications of the substance that the restriction does not apply to. This KPI, in combination with e.g. the direct economic value of all chemicals, could demonstrate whether this number decreases over time relative to the direct economic value generated. This KPI covers both human health and environmental aspects. *(The basis could be data reported by ECHA).*

4. **Safety of workers measured through the Lost Time Injury Rate (LTIR). (ref. Safety)**
   The safety of workers is often measured and reported through the number of injuries that lead to lost time (as per the official OSHA definition). *(The basis could be the data reported under the CEFIC Responsible Care KPIs).*

5. **Direct greenhouse gas emissions (scope 1) associated with the production of chemicals in the EU. (ref. Climate impact)**
   Direct GHG emissions (scope 1) associated with the production of chemicals would demonstrate whether energy efficiency improvements are made (relative to their direct economic value). This KPI enables measurement of the chemicals contribution to the transition towards the EU's climate change ambitions. *(The basis could be the data reported under the CEFIC Responsible Care KPIs or the European Pollutant Release and Transfer Register, E-PRTR).*

6. **Indirect greenhouse gas emissions (scope 2) associated with the production of chemicals in the EU. (ref. Climate impact)**
   Indirect GHG emissions (scope 2) associated with the production of chemicals would demonstrate the contribution of chemicals throughout the value chain in terms of GHG emissions. *(The basis could be the data reported under the CEFIC Responsible Care KPIs or the European Pollutant Release and Transfer Register – E-RPTR).*

7. **Emissions of hazardous substances (to air), e.g. NOx, SOx and VOCs associated with the production of chemicals in the EU (ref. Ecosystem impact)**
   Emissions of hazardous substances would demonstrate whether these emissions decrease in absolute terms as well as relative terms to the volume or value generated, in line with the CSS. *(The basis could be the data reported under the CEFIC Responsible Care KPIs or the European Pollutant Release and Transfer Register – E-PRTR).*

8. **Energy intensity associated with the production of chemicals in the EU. (ref. Resources)**
   The energy intensity expressed as energy used related to chemicals production, would demonstrate measurement of the chemicals contribution to the transition towards the EU's climate change ambitions. *(The basis could be the data reported by CEFIC).*

9. **Hazardous waste associated with the production of chemicals in the EU. (ref. Resources)**
   The volume of hazardous waste would demonstrate whether hazardous waste decreases in absolute terms as well as relative terms to the chemicals production (volume and value generated), in line with the CSS and the circular economy principles. *(The basis could be the*

data reported under the CEFIC Responsible Care KPIs or the European Pollutant Release and Transfer Register – E-PRTR).

10. **Chemicals waste recycled (relative to chemicals waste generated). (ref. Resources)**
    Chemicals waste recycled i.e. chemicals waste used as secondary raw materials. Also contributes to the Circular Economy principles. *(The basis could be the data reported under the CEFIC Responsible Care KPIs or the European Pollutant Release and Transfer Register – E-PRTR).*

11. **Number of awarded patents for the chemicals industry in the EU. (ref. Innovation)**
    The awarded patents would cover a range of sustainability aspects, i.e. replacement of SVHC substances, energy efficiency improvements, reduction of emissions of hazardous substances to air and water. *(The basis could be the data reported by the European Patent Office, EPO).*

12. **R&D expenditure in the EU by the chemicals industry (ref. Innovation)**
    The total R&D expenditure in the EU by the chemical industry could be a proxy for innovation in the chemicals industry in the EU. *(The basis could be the data reported by DG Research & Innovation).*

Baseline

The first year of reporting would provide the baseline and the KPIs would be reported annually for the chemicals industry (NACE sectors 20.1 to 20.5). Please note that for many of the KPIs above there is already a long reporting history.