

Statement of Informal Dialogue 2: Challenges and Opportunities for Sustainable Chemistry to Contribute to Sustainable Development

**1st Meeting of the Intersessional Process for the Sound Management of Chemicals and Waste Beyond 2020, Strategic Approach to International Chemicals Management (SAICM)
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When I was invited to come and speak on sustainable chemistry, I was struggling a bit because the term “sustainable chemistry” supposes to mean so much entailing all three dimensions of sustainable development, but it is being reduced to justify the piecemeal changes in reality.

In the past few years, me and my colleagues at Greenpeace get to visit communities around industrial sites manufacturing and using chemicals in different places. We have seen the increasing proximity of chemistry to residential areas, schoolyard, and waterways as cities expand and the industry grows. This manifests the intensification of chemistry in our economy. Yet, even with the safety and environmental protection measures put in place by companies and authorities, the current risk-based approach doesn't land us on the safe side.

To the contrary, we are seeing increasing spillover and externalities of the conventional approach how governments and businesses manage chemicals. In many developing countries where much chemical and manufacturing production has now relocated, the scale of a chemical crisis on the environment and human health is plain to see. For example, the tragic blast hit Tianjin city in August 2015 taught us that attempts to control exposure still left 165 dead and 800 injured, USD 1 billion in direct economic losses, and tremendous costs of the ongoing clean up.

As noted in the Global Chemicals Outlook (2013) by UNEP, *“The vast majority of human health costs linked to chemicals production, consumption and disposal are not borne by chemicals producers, or shared down the value-chain. Uncompensated harms to human health and the environment are market failures that need correction.”*

Yet, we know that modest and incremental changes alone will not solve such chemicals problem and to progressively convert our economy to safer and more sustainable chemicals. Will “sustainable chemistry” offer us the broad and structural changes needed? The answer is it only does if sustainable chemistry is clearly defined in a way that includes reducing and eliminating hazards of chemicals in their lifecycles as a priority; and only if it truly addressing all three dimensions of the sustainable development challenges, esp. the social and environmental dimensions.

In our view, sustainable chemistry should be part of a grand strategy that entails the following:

- 1) Sustainable Chemistry should work as part of an integrated and preventative chemicals management system. We need a mind-set change to shift into a hazard-based approach. Current risk-based approach to chemicals management and end-of-pipe treatment has proved incapable of addressing the scale and severity of the problem. The precautionary principle is key to guide any attempts to bring safety and sustainability. In other words, the problem lies in effectively addressing the inherent-hazards of

chemicals. If hazardous chemicals continue reaching the workplaces and end-of-the pipe, it is already too late and leaving sustainable chemistry marginalized.

- 2) As it creates safer alternatives, including non-chemical alternatives, sustainable chemistry should not replace or downplay the sound chemicals management scheme, including regulatory developments, and efforts to address the legacy issues. The moral and financial responsibility for measures to prevent further releases to the environment and to remediate existing damage should remain with the originators. Strict regulation is necessary to create a level playing field for business worldwide that commits to moving to the forefront of sustainable chemical innovation.
- 3) We probably need to “formalize the informal dialogues” to enable cooperation at all levels of government, industry and civil society in order to make sustainable chemistry a reality. In an industry of this size and value chains disbursed globally, there is ample space for industry and local governments to evade regulations. Thoughtful measures need to be put in place and the government will have to proactively reach out to and engage companies in a framework, which can be beneficial to both public and environmental safety and to companies themselves.
- 4) More fundamentally, transparency is an invaluable stepping stone on the pathway to green and sustainable chemistry. Citizens, workers and consumers have the right to know the dangers chemicals can pose to our health and neighborhoods. Information of chemicals in supply chain, in the manufacturing processes and discharges, in products, in recycling and disposal should be made available and credible. Information transparency is extremely critical to the accountability of businesses and authorities.

At its best, sustainable chemistry could shift the entire industry to safer production and improve public and environmental safety by eliminating hazards. A more precise definition and commitment to hazard reduction and elimination of sustainable chemistry is a starting point for a safe and prosperous toxic-free future.