

## Sustainable Chemistry as an Ambitious Destination for Strengthening Future Chemicals Policy

*Reflections from the first meeting of the intersessional process considering the Strategic Approach and the sound management of chemicals and waste beyond 2020, Brasilia, Feb 7-9, 2017*

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Should the international community align future chemicals policy to the concept of sustainable chemistry? In this article, we are arguing this should be the case due to a number of reasons. These are important to note in the context of the first intersessional meeting of the SAICM Beyond 2020 process, and they can serve as a basis for further discussion.

To begin with, there is the incredibly high number of chemicals that are already registered in the Chemical Abstracts Service register: in total, the register now includes over 127 million different substances. On average, one substance was added every 1.4 seconds in 2016. Very few of these substances are actually on the market, with current estimates in the range of 100,000 – 150,000 economically relevant chemicals. However, demand and therefore production of chemicals has been increasing steadily in recent years. For way too many of the substances in use, we still do not have sufficient information about their toxic and eco-toxic characteristics.

The 2030 Agenda for Sustainable Development provides the frame and fundament for what we are doing in SAICM. The ICCM 5 Bureau has also expressed this view in the recently released [“Thought Starter”](#). Now, close consideration needs to be given to how chemicals, and the products that contain them, contribute to achieving the Sustainable Development Goals.

*Firstly*, this is about chemicals management with its focus on chemical safety, which is explicitly included in some of the SDGs. Implementing and further developing sound chemicals management globally is the challenge that we have to face, and will continue to face in the future.

While chemicals are mentioned in the 2030 Agenda with a particular view to health and environmental risks, we cannot do without them - because, *secondly*, chemicals and the products that contain them are not only parts of our daily lives, they also contribute to achieving a number of the goals and targets of the 2030 Sustainable Development Agenda.

This is about very concrete and practical interfaces: How can we use chemicals towards achieving SDG 2 to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture”? What are the connections between chemicals and the goal to “ensure access to affordable, reliable, sustainable and modern energy for all” (SDG 7)? Which roles do chemicals play for achieving SDG 11 “to make cities and human settlements inclusive, safe, resilient and sustainable”? How can chemicals contribute to taking “urgent action to combat climate change and its impacts” (SDG 13)? How can producing and using chemicals help to reach SDG 15,

that is “to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”?

Many of the SAICM stakeholders will be able to answer some of these questions right away. For example, advanced materials for producing and storing renewable energy are needed, as is energy efficiency in production processes. Improved and cost effective building materials and materials for clean mobility are equally necessary. At the same time, the agreed goal is to prevent loss of biodiversity and irreversible soil degradation that can be caused by the increased use of land for producing renewable resources.

These challenges are all at the interfaces between chemicals management on the one hand, and other areas of policy-making and the goals of the 2030 Agenda on the other hand. The task is to realize potential synergies and create win-win situations, transparently balancing conflicting goals and deal with potential trade-offs. This requires careful consideration of various assets and diverging needs, sometimes even among the different ecological goals.

Aligning the work in SAICM to the concept of sustainable chemistry can support reaching the ultimate destination of sustainable production and use of chemicals. Sustainable chemistry is about combining ecologically sound solutions with economic success while meeting social needs. In order to achieve that, a shared understanding of our collective goal and the way towards it is needed, and that can only be created through the effective engagement of all relevant actors.

The [OECD definition of sustainable chemistry](#) is a good starting point, yet needs further development, and a process of finding the most useful definition collectively. Preferably this should include exploring and developing interfaces with key issues and SDGs, specified by clear criteria, measurable goals and indicators, and adequately addressing relevant trade-offs. For such a process of an ‘*emerging definition*’ to work, all actors need to be engaged, and on an equal footing. The conversations and collaborations need to be at eye level – between regions, sectors and stakeholders.

The concept of sustainable chemistry is comprehensive. This can carry the risk of wanting too much – and then achieving too little -, and the risk of creating a process that merely scratches the surface, focusing the conversation at a too abstract level and diminishing space for concrete action on urgent issues.

When exploring sustainable chemistry in interfaces between chemistry and SDG issues, not all aspects can always be considered simultaneously, and often, not all relevant aspects will even be known. In order to address this challenge, it will help to begin with addressing concrete questions in distinct areas of concern without losing sight of the overall goal. In that manner, knowledge can be generated piece by piece, and – by working together – finally be assembled into a complete picture.

The work of putting together the pieces is also one of the main objectives of the new International Sustainable Chemistry Collaborative Centre, or ISC3, that the German government will be launching in Berlin on the 17<sup>th</sup> of May, 2017.

The Centre shall act as a platform for the sustainable chemistry community through creating an international network, as a knowledge base for sustainable chemistry, as

an incubator and multiplier of ideas and innovations - including the use of non-toxic chemicals or non-chemical solutions, as well as re-use and recycling - and as a think tank and source of inspiration.

Working on the interface of climate and chemicals could be a good starting point. Producing solar cells requires advanced chemistry knowledge. The increasing demand for building materials for housing and infrastructure, and the role of chemicals in meeting that demand, is another interesting question and highly relevant for our daily lives. Equally, issues of food security, water, urban development and mobility could be further promising points for departure.

In the past, SAICM has very rightly focused on improving chemical safety and achieved important results. This successful work should be continued – even if the 2020 goal may not be fully reached, despite all efforts.

Aligning a future global platform with the concept of sustainable chemistry offers opportunities for meeting the challenges ahead:

- Working on the interfaces among different goals of the 2030 Agenda on the one hand, and focusing on improving chemical safety on the other, we are using different avenues that are mutually supportive in addressing the challenges.
- Both in SAICM and in sustainable chemistry, all relevant actors and stakeholders work together on a voluntary basis. Sustainable chemistry offers new opportunities and possibilities for stakeholders and sectors to work together, as it also considers economic and social developments, needs, and interests.
- Finally, there is a rather mundane, but important reason to consider sustainable chemistry: that is, the integrated approach to financing. SAICM stakeholders know the three pillars of this approach, one of them being “mainstreaming”. Mainstreaming relevant issues into other areas of policy making is by no means easy. It includes thinking hard about the question which benefits the other policy arena will enjoy when integrating chemicals and waste issues.

Creating commitment and ownership among those not (yet) engaged in SAICM always requires to reach out pro-actively, listen, and create benefits and opportunities for the ones needed to engage. This is urgent not only for financing, or for creating sustainable chemistry, but also for the SAICM process to pick up speed, become broader and more powerful, so that in 2020 there will be all the necessary political will, momentum and resources to set up a successful framework for beyond 2020.

Sustainable chemistry is meant to build on and be more ambitious than SMCW. We need chemical safety, cleaning up hazards and effectively managing risks. We need all countries to have the capacities and means to develop sound management systems. And we need scientists and entrepreneurs around the world to develop and invest in chemical solutions that are safe, healthy, support overcoming inequalities – i.e. that help us achieve the 2030 Agenda for Sustainable Development.

**Links and references:**

ISC3 – International Sustainable Chemistry Collaborative Centre, <https://isc3.org>

Chemicals Beyond 2020 – Information platform on the future of global chemicals and waste governance: <http://chemicalsbeyond2020.adelphi.de>

Simon, Nils (2017): Stakeholder views on SAICM beyond 2020: Results from an interview series. Chemicals beyond 2020 Series, 01/2017. Berlin: adelphi.