European Commission

EU CHEMICALS POLICY 2030

BUILDING ON THE PAST, MOVING TO THE FUTURE

BRUSSELS, 27-28 JUNE 2019

REPORT OF THE CONFERENCE

Ministry of Environment and Food of Denmark

Environment

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Introduction

The European Commission and its organising partner, the Ministry for Environment and Food of Denmark, held a high-level conference on 27 and 28 June 2019 attended by some 300 stakeholders, including more than 50 speakers and contributors.

The main objectives were to engage the different stakeholder groups in discussions on recent and possible future developments of EU chemicals policy, in order to further improve the protection of human health and the environment, in line with the Sustainable Development Agenda, as well as to support the good functioning of the internal market and to enhance the competitiveness and innovation of EU industry.

The discussions focused on six main topics:

- **Promoting green and sustainable chemistry through innovation, alternative technologies and processes and right skills.**
- **Chemicals and the circular economy: safe management of chemicals in products and waste and contribution to resource efficiency.**
- **Improving the regulatory framework for risk assessment and risk management of hazardous chemicals.**
- **Knowledge building, monitoring and early warning on emerging risks.**
- **Smarter communication, better protection and lower costs: meeting citizens' concerns, completing the EU Single Market and ensuring a level playing field.**
- **The EU chemicals policy and global challenges: sustainability, innovation, competitiveness.**

These topics were addressed in moderated panel discussions by panellists representing a wide range of stakeholders - from the chemicals industry, downstream users, authorities, academia, and non-government organisations. In addition, there were six participatory thematic sessions for 80 to 100 participants each, again from all the different stakeholder groups, focusing on the above topics in world café style debates. Participants were asked to come up with a vision for what the EU should have achieved by 2030, specific objectives that the EU should set to reach the 2030 vision, and actions to be taken to reach the vision and achieve the objectives for the given topic. Participants then voted for 1 vision, 2 objectives and 2 actions each. The outcomes of these sessions were presented on Day 2, followed by moderated panel discussions and a conclusion by the European Commission.

This report presents a detailed overview of the discussions held and their outcomes.

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Keynote speeches

Karmenu Vella

European Commissioner for Environment, Maritime Affairs and Fisheries

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Ladies and Gentlemen. On behalf of the European Commission, welcome to the conference. Today is all about building bridges – bridges between stakeholder groups, between the Commission and its interlocutors, and perhaps most importantly of all, bridges between the past and the future.

I've been Commissioner for the Environment for the last five years. Almost every day, a new report landed on my desk with amazing statistics that were sometimes hard to believe. But for chemicals, the numbers were a category all to themselves.

Fifteen thousand new chemicals designed and conceived – every day. Most disappear, but there are 100 000 chemicals on the EU market. Sixty percent of the chemicals we produce are hazardous to some degree. And the global market for these chemicals will double in size by 2030, with the EU market growing by 30 percent.

We have fifty years of chemicals policy behind us, and more than 40 pieces of primary legislation on the books. And many more laws with a strong chemical component, as chemical pollution is a major cause of environmental degradation.

When we adopted REACH in 2006, we didn't even know what chemicals were on the market. Now we have over 22 000 registered substances, submitted by 14 000 companies, in over 90 000 dossiers.

"No data, no market" shifted the burden of proof to the people who manufacture these substances, and place them on the market.

Thanks to REACH, the CLP Regulation and the work done by EU scientific bodies, we lead the world in chemicals knowledge and management.

REACH Reviewed

When I look back, I see three major milestones.

Firstly, the REACH Review. A very solid report, which showed objective improvements in chemical safety. Citizens recognise this, and see that the safety of products has improved over the past 10 years. REACH is also delivering on greater transparency and easier access to information. One core aim of REACH is phasing out Substances of Very High Concern and replacing them with less harmful ones. We have made progress here, with a political agreement with the Member States to identify all such substances by 2020.

There is always room for improvement. Too many registration dossiers are non-compliant, although we are working with industry to improve the situation.

Secondly, we are working on the interface between waste, products and chemicals. The Commission has ambitious plans for the EU economy driven by the need to shift to a more circular model, which reduces our reliance on primary materials.

That means more recycling, but articles that become waste may contain hazardous chemicals. This can hamper the uptake of recycling, reduce trust in recycled materials, and delay the shift to circularity. We are addressing the problem through public consultation. I assure you the response will be carefully weighted to match the size of the challenge.

Non-REACH chemicals legislation

Thirdly, and most recently, we have been checking all the non-REACH chemicals legislation, more than 40 pieces of legislation. Perhaps you contributed – my thanks if you did.

The headline finding is reassuring – the legislation is still fit for purpose. It has led to notable improvements in terms of protecting health and the environment.

The benefits are significant. Going back to those enormous numbers, the legislation has reduced contamination by PCBs between 1971 and 2018, with savings in a range of 20 to 90 billion euros – and that's just one example.

However, nature is suffering, with insects and birds in dramatic decline. And humans are suffering, with male fertility decreasing at an alarming rate, and cancers and neurological diseases on the rise. There are multiple causes, but one thing is clear. Chemicals are definitely involved. We need more knowledge about exposure to hazardous chemicals and their impacts. More and better data on human health and environmental exposure, and on hazardous chemical uses.
Better tracking of hazardous substances in articles would help. Information about chemical content should be available throughout the lifecycle of products.

And we need more incentives to substitute hazardous chemicals. Doing more to support 'green chemistry' would also improve the sustainability of the industry, protecting its future competitiveness.

Looking towards the horizon – where we need a strong chemicals policy to deliver on at least half of the SDGs[1] – we need to ask, what should the future hold?

The way forward

My first recommendation is to rationalise and simplify the legislative framework. REACH and the CLP should remain at the centre, but with a simpler system for assessing and managing risk.

Secondly, we need better implementation and enforcement of EU chemicals legislation, and more consistent application across Members States. All EU citizens deserve the same protection.

Thirdly, I would recommend a joined-up approach. If you don't have that, you can't guarantee that vulnerable groups get the protection they need.

And fourthly, I would build a more effective system to identify and manage emerging risks. That means focusing on long-term, large-scale effects on environment and health. An early warning system would pay for itself many times over in the longer term.
We can sum up these challenges in very simple terms. They all come back to one question – are we ambitious enough?

It takes strong political commitment, expertise, cooperation, and perseverance. From industrial producers and downstream users, to authorities and policy-makers, from NGOs and consumer associations, to researchers and experts from many fields.

You are the people who implement these policies every day. We need your perspective on how they might evolve. We want your vision, your objectives and the actions you want us to deliver by 2030.

1 In 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development, along with 17 Sustainable Development Goals (SDGs) and 169 associated targets. The EU has committed to implement the SDGs in its policies. SDG targets directly relate to the EU chemicals policy, including targets for the protection of human health and the environment, and responsible production and consumption.

Elżbieta Bieńkowska

European Commissioner for the Internal Market, Industry, Entrepreneurship and SMEs

Photo: © European Commission

Ladies and Gentlemen, I am sorry that I cannot join you today. This conference is an important opportunity to discuss what the EU has delivered in the field of chemicals. Over this Commission, we have been busy assessing different aspects of this complex and continuously evolving legislation. We were seeking to understand its strengths and weaknesses. Thank you all for being very active in helping us to identify them. We have evaluated over 40 pieces of chemicals legislation. The evidence shows this legislation is fit for purpose.

I have a clear take-away. Since the adoption of the first legislation 50 years ago, we have really achieved a lot. I will name only some main achievements: a world-class chemicals legislation that performs well; a high level of protection of human health and the environment; an internal market that delivers for consumers and where EU businesses can thrive; inclusive and transparent decision-making processes; robust and up-to-date science-based decisions; and competitive and innovative industry that takes on its responsibilities and is responding to challenges, such as sustainability and digitalisation.

But we did not invite you here to only showcase our achievements. Today and tomorrow, we want to hear from you. We want your views and ideas on how to address the gaps, weaknesses and challenges that we have identified.

Let us know what your vision for chemicals policy is. Let us know how we can boost competitiveness and growth by cutting any unnecessary red tape. Tell us how we can ensure that everyone understands their legal obligations and is able to fulfil them. Share with us your ideas about how digital tools could benefit us all. Point out if we have it wrong, or if we have missed something. Your input will be crucial to prepare for the next Commission. Enjoy the conference. Thank you.

Tejs Binderup

Deputy Permanent Secretary, Ministry for Environment and Food of Denmark

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Ladies and Gentlemen. First of all, thank you all for coming! On behalf of the Danish Ministry of Environment and Food, it is a great pleasure to be here today. And it is fantastic to see so many people here for this very important conference. This is a high priority area for Denmark and I am excited to hear the input from all stakeholders the next days. And a warm thanks to the Commission for the cooperation on this conference. You have made a great effort to make it all come together. So thank you.

Chemicals play a huge part in our daily lives. And today, chemicals help us in thousands of ways to be able to live the modern life we enjoy. But the consequence is that we are all constantly exposed to chemical substances, because they are a necessary part of our daily actions. We encounter them in everything from brushing our teeth to cleaning the sink or painting a fence. But also in products where chemicals are not something you immediately notice. Industries for example use chemicals in toys, textiles and furniture to give these products some of the properties we want and expect as consumers.

In Denmark, we consider it immensely important that we focus on the protection of human health and the environment, when chemicals are used. And therefore, our aim with this conference is threefold:

Firstly, we need to continue to make the EU chemicals legislation fit for future challenges. While at the same time be supportive of EU competitiveness and innovation.

Secondly, we need assuring that chemicals are dealt with in all policies in a proper and consistent manner, wherever relevant, as chemicals are used in almost any sector. Even fighting climate change and making circular economy is a reality that needs considerations on chemicals.

Thirdly, we need to develop a European practice that ensures restricting all chemicals that pose a risk in everyday products. But also substances and uses that pose a foreseeable risk in the future, such as fluorinated substances as agreed by the Council yesterday.

Luckily, we have come a long way in recent years in relation to the work of implementing chemical legislation. A good example is REACH. Perhaps REACH is not the golden standard yet but it might become a global standard. We have all had to work hard to be where we stand today with the EU chemical legislation. It is a great accomplishment that we should be proud of. At the same time, the EU chemicals policy has never been more important. And I am convinced that our efforts at this conference will help protect future generations.

Both in relation to which substances we and our children are exposed to, but also how it affects our globe. And sustainable chemicals management is central to fulfil many of the Sustainable Development Goals. We must ensure that our use of chemicals contribute to a higher level of protection of human health and environment globally as well as within the EU. Towards 2030, we need to further understand and address the sustainable aspects of chemicals. And we need to develop non-toxic material cycles as part of a future circular economy.

We need to cooperate. For many years, EU chemicals policies have built on the concept that certain hazards trigger certain obligations and risk management measures. We believe this is a sensible approach and I look forward to read further into the publication of the REFIT exercise from the Commission. So – we have a lot to do. Not just in the next days, but in the coming years. And I must admit I know it will not be easy, neither for Member States nor at EU-level. In Denmark, we have a good tradition of developing green solutions through a broad cooperation between authorities, industry, NGOs and researchers. Therefore, Denmark is ready to share our experiences in this regard and work together with all of you. The EU must maintain its position as a global leader in sustainable chemicals management. We have come a long way already, but at the same time we need to be more ambitious and proactive in the future. And from the Danish side, we are willing to devote time, influence, experience and manpower to see this done. I hope that you will all join us in this ambition. And with that, I wish you all an inspiring day!

Photo: © European Commission

Building on 20 years of EU Chemicals Policy

Moderated Panel Discussion

The members of the panel were:

Claudia Dumitru,
Head of Hazardous Substances and Contaminated Sites Unit, Ministry of Environment, Romania;

Christina Rudén,
Professor, Stockholm University, Sweden;

Patrick ten Brink,
Director of EU Policy unit, European Environment Bureau (EEB);

Martin Kayser,
Vice President, Product Safety, BASF;

Monique Goyens,
Director General, BEUC.


Photo: © European Commission

Building on the past

In the first panel discussion, the focus was on EU policy achievements and how they can be built upon in the future.

Much work was done on chemicals during Romania's EU Council Presidency (January-June 2019), especially in the international sphere. **Claudia Dumitru** shared her experience of chemicals legislation over 14 years in the Romanian Ministry of the Environment. The biggest challenges were during the Council Presidency, she said, particularly the rewarding role her team played at the Conference of the Parties to the three UN chemical conventions (Basel, Rotterdam and Stockholm) over two weeks in Geneva in May 2019. "We had great results from the Basel Convention, including on plastics."

"We need to stress the fact that we need legislation, more opportunities for people to understand what we are doing, and that not all the chemicals they consume everyday are bad," concluded **Ms Dumitru.**

Chemical mixtures and groups

Christina Rudén has devoted the last 20 years of her life to evaluating regulatory systems for chemical control. Here, she focused on the recommendations of a special enquiry for the Swedish government on chemical mixture risk assessment and the grouping of chemicals for improved risk management.

Chemical products, i.e. intentional mixtures of chemicals such as paint or cosmetics, are well documented, she said, "so when I talk about mixtures, I mean unintentional mixtures of chemicals that we are exposed to in our everyday lives."

Prof Rudén outlined 11 draft recommendations. These include the need to assess exposures and risks across legislations under a new overarching policy, and, given that many of our consumer articles come from outside the EU, the need to tackle chemical mixtures on a global level.

One recommendation focuses on monitoring to identify priority mixtures for risk assessment. Current policies look at one chemical at a time, allowing producers to expose people up to the acceptable daily limit for each chemical, so another recommendation is to limit exposure to a certain percentage of total daily intake to take into account mixture effects.

In terms of grouping, **Prof Rudén** said: "We need to go from thinking about chemicals as single individuals and acknowledge they are part of a family, and they also have an extended family." She noted that ECHA has already started work on the grouping of REACH chemicals for improved risk assessment.

Chemical grouping is also important to avoid 'regrettable substitutions', where significant resources can be spent on replacing hazardous chemicals with chemicals having similar properties that may be of similar concern. So, when a chemical is identified as a Substance of Very High Concern (SVHC), her team recommend that other members of that chemical group should also be flagged as potential SVHC.

Another recommendation is for establishing a task force for mixture risk assessment, involving collaboration across regulatory areas. This could be started at national level, and then scaled up to EU level.


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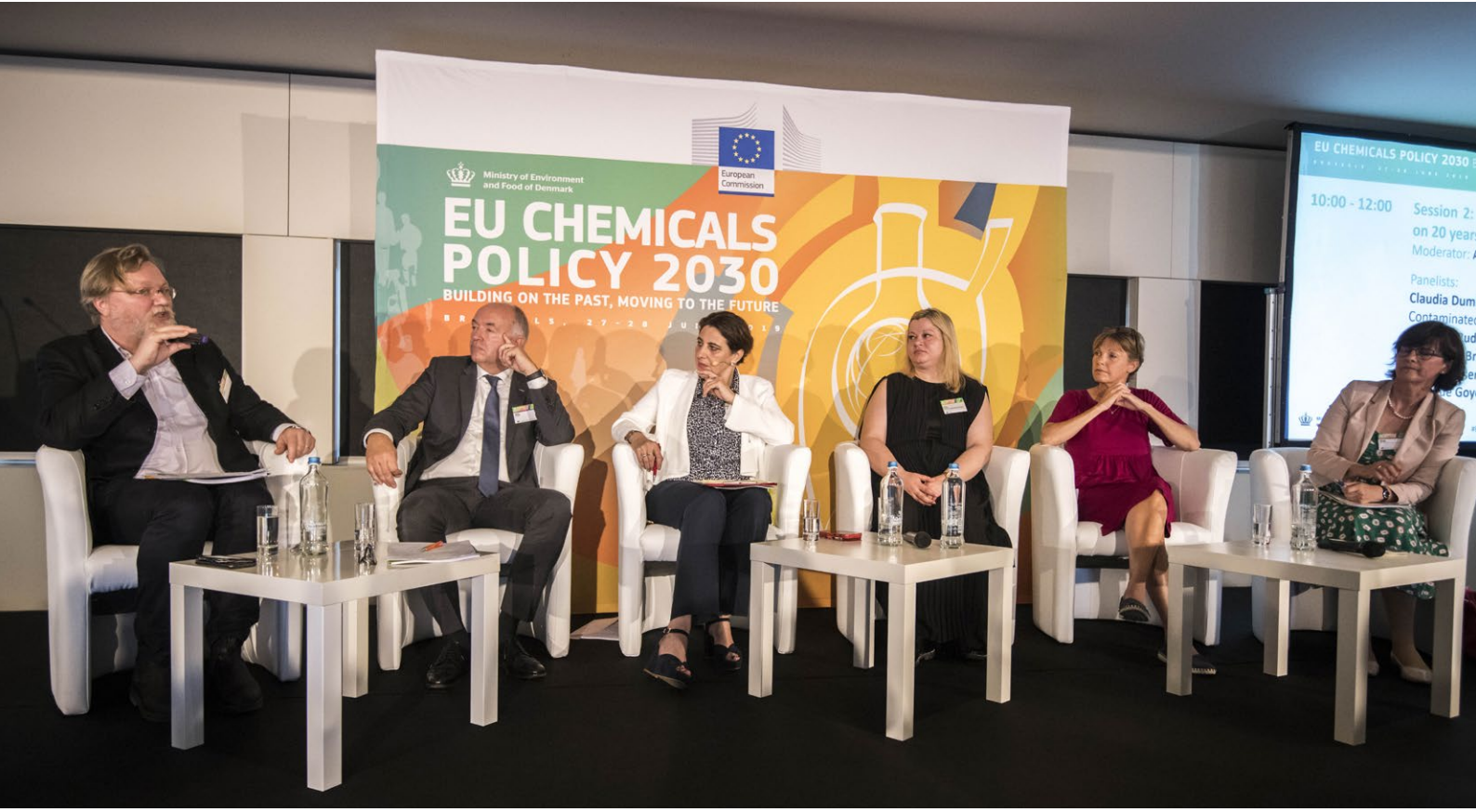

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Improving the implementation of chemicals legislation

Patrick ten Brink, in his role at the EEB, helps civil society organisations find solutions to environmental problems. He summarised recent reports that stressed chemical pollution as a contributor to environmental and human health problems. "In terms of regulatory response, we have REACH and the non-REACH legislation. These are ambitious and recognised by recent evaluations as fit for purpose, but the main weakness is in implementation," he said.

"One issue relates to a statistic that came out recently on the registration dossiers. In a number of cases, companies put products on the market without sufficient health and safety or risk data," said **Mr ten Brink.** This suggests that the application of the "no data, no market" principle needs to be looked at again.

Another issue is products placed on the market that have been found with high levels of hazardous chemicals, for example, lead in jewelry, chromates in leather and phthalates in plastic toys. "There is a dramatic problem and the solution must include a substitution strategy towards green chemicals," he said.

Notable gaps highlighted included criteria for endocrine-disrupting chemicals that are not applied horizontally across legislation. For example, phthalates are in principle well regulated in plastic toys, but not in carpets and textiles where children can be exposed to them.

Mr ten Brink was of the opinion that we are falling short of the original roadmap goals for REACH's Candidate List of SVHC for phasing out by 2020. The Candidate List of SVHCs for authorisation only contained 191 substances in 2018. He said that preventing hazardous products accidentally entering the market in Europe is particularly important, because it takes so long to identify and address the problem once they are on the market.

He also stressed the need for better national enforcement of legislation, at a time when some Member States have cut back on inspections, to ensure products are safe. The growth in imported products bought via the Internet makes this even more urgent.

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Chemical industry experience of **REACH**

Martin Kayser is responsible for product safety at the chemical company BASF, including chemical regulation at local, regional and global level. He drew on his 15-years' experience to provide an international perspective on EU chemicals policy.

"It is undisputed among international audiences that the EU has the most sophisticated and ambitious chemical regulation framework in the world," he said. "With the introduction of REACH, the EU has set a high standard for a chemical management system which has been successfully implemented over the last 10 years in an unprecedented effort by industry, in close cooperation with European and national authorities - most notably ECHA."

REACH works, he said, and industry has spent enormous resources to comply with its requirements. Almost 96 000 registrations, for about 22 500 substances, and more than 14 000 companies have been active working on REACH. "My company BASF, the biggest registrant in REACH, has registered 2 079 substances. On average across the last 10 years, BASF has sent 51 submissions, registrations and registration updates per month, this equals to 2 submissions per working day," calculated **Dr Kayser.** "BASF alone ordered approximately 4 000 toxicological and ecotoxicological studies for REACH purposes since 2007."

BASF policy is to use animal studies only as a last resort, and they have established a specialised laboratory in Ludwigshafen, Germany, focused on developing alternative methods.

"To summarise, REACH has worked in Europe, but it requires huge capacities, high levels of expertise, and resources from industry. Most parts of the world are far away from being able to implement such an ambitious chemical management system," said **Dr Kayser.** "For these regions, you need smart approaches and to implement more basic management systems."

"I always believe that a balanced approach to regulation with voluntary initiatives from industry is the best way to achieve progress in protecting the environment and human health, and developing sustainable chemistry solutions."


Photo: © European Commission

Protecting consumers


Photo: © BEUC

Monique Goyens is Director General of BEUC, the European Consumer Organisation, which lists chemicals as one of its priority areas. "It is not a coincidence that this conference has been co-organised by the Danish ministry, as our Danish members are frontrunners when it comes to testing chemical safety and designing consumer-friendly policy," she says.

Consumers are not experts in chemicals, so they rely on companies or authorities to ensure that only safe products are made available. When shopping, consumers have a general feeling that products on the shelves are safe. However, this is not always the case due to poor enforcement and loopholes in the regulatory framework. She agrees with others that we can be proud of our chemical safety framework in Europe, but said that we should not rest on our laurels. We have blind spots and gaps, and are exposed on a daily basis to substances that could be harming our health.

Ms Goyens stressed the need for faster action when addressing unsafe chemicals in consumer products (e.g. if banned in toys they should also be banned in childcare products); a modernised chemicals legislation that accounts for cocktail/mixture effects; a cross-EU framework on endocrine disruptors; recognition that the General Product Safety Directive is not enough to protect consumers against unsafe chemicals; and better consideration given to vulnerable consumers like children, elderly people or those with immune-deficiencies.

BEUC's position is also that a number of key challenges need to be addressed, for which better enforcement of policy is seen as crucial. Given the explosion in e-commerce, in particular international e-commerce, more needs to be done to ensure products purchased online and imported into the EU meet EU chemical safety standards.

Photo: © European Commission

Common goals

The themes raised by the speakers were further developed during the panel discussion and questions from the floor.

Mr ten Brink noted that ECHA needs external help and more resources to deal with chemical substitution information. **Dr Kayser** agreed, though said that resources are not just money, but also expertise to improve the quality of dossiers and fill implementation gaps. He stressed that companies have done what is required under REACH and undergo frequent inspections, as is the case at BASF in Germany.

Prof Rudén reiterated that the current system was not set up to work across different chemical sectors (silos), and that harmonisation through some type of policy framework is needed. She noted that endocrine disruptors would be a good place to start being cross-sectorial.

Simplification and transparency

Dr Kayser also commented that with over 40 other pieces of chemicals legislation, the regulatory landscape has become too complicated, making it difficult for smaller companies to comply. This would suggest we should think about simplification, possibly bringing things under one regulation. The moderator, **Aminda Leigh** added that the chemicals legislation fitness check had looked at simplification, especially for SMEs, and the potential use of new technologies, for example, involving artificial intelligence. **Mr ten Brink** agreed that there was now an opportunity for more coherent policy strategies, to avoid silos.

It was noted that consumers do not always read or understand labels, and whether transparency can be improved. **Ms Goyens** said that digital tools could help consumers understand labels. However, e-labelling should always be considered as a complement, never as an alternative, to package labelling. There is also room for improvement in the way packaging is labelled and products are advertised. At the global level, there was often less enthusiasm for transparency than in Europe, added **Dr Kayser.**

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Photo: © European Commission

Circular economy

Regarding the circular economy, **Dr Kayser** noted the technological methods available to remove unwanted chemicals from the cycle so they don't occur in products or end-of-life materials.

Ms Goyens said that consumers should be as safe when they buy a product made from recycled materials as one made from virgin materials. They were not reassured when contaminants end up in recycled products, giving the example of pizza boxes in Denmark containing toxins coming from the recycled paper they were made from.

Among the questions from the floor, a representative from the automotive industry said that when chemicals are put on REACH's Candidate List of SVHC it is not helpful for them, as they may still be useful to help innovate in the field of electric batteries and electric vehicles. She asked for more communication with downstream chemical users.

One question from the floor, from WECF (Women Engage for a Common Future), was do we need a 'reboot' to start phasing out most of the chemical groups used by industry and replace them with safe, sustainable alternatives? Another question, from a member of the European Parliament who had been involved with the European Parliament's Special Committee of the Union's authorisation procedure for pesticides, which dealt with the controversy about the renewal of the glyphosate authorisation, asked "how can policymakers prevent industry 'watering down' legislation?"

Replying from the industry perspective, **Dr Kayser** said a 'reboot' would not be useful, as there is general agreement that progress is being made. He also refuted the idea of 'watering down', and said that data would soon to be made publicly available by ECHA to increase transparency. On this issue, **Prof Rudén** added that industry works in close cooperation with authorities. She also suggested that agencies invite scientific experts to work more closely with policy development, and that both agencies and universities improve incentives for scientists to accept those invitations.

Ms Goyens remarked that citizens are part of the solution for achieving systemic transformation, while **Ms Dumitru** reminded the conference of how major initiatives, like the Montreal Protocol on Substances that Deplete the Ozone Layer, were achieved, and that for similar success in the chemicals field we should all be working together in the same team.

WECF acknowledged there is also a biomass issue, and that replacement chemicals should not come from, say, virgin forests. The land area issue was also raised elsewhere during discussions - there is only a finite area of land for growing crops for food and industrial feedstocks.

Further questions included one from a representative from the US mission to EU, who helps US chemical companies to understand EU requirements, thought there should be a greater focus on trade. He asked to what extent the panel felt that trade from outside the EU compromises EU in achieving its goals?

Speaking of her experience in Transatlantic Trade and Investment Partnership (TTIP) negotiations with BEUC, **Ms Goyens** said that one of the consumer organisation's red lines was to never let trade agreements water down EU legislation, because consumers expect safety wherever products come from, and there could be no compromise.

Dr Kayser said that only safe products should be traded and that trade agreements help to share information. This is important for business, providing stability, security and knowledge of what is happening. Working together is a prerequisite for being successful, he said.

Thematic Sessions

Thematic Session 1:

Promoting green and sustainable chemistry through innovation, alternative technologies and processes and right skills

Setting the scene:
Joel Tickner,
Professor, Lowell Centre for Sustainable Production at the Universityof Massachusetts, and Executive Director Green Chemistry & Commerce Council (GC3), USA.


Photo: © European Commission

Joel Tickner talked about building bridges along supply chains to further accelerate innovation in green and sustainable chemistry[1].

A number of barriers in the marketplace have to be overcome to accelerate the development of green chemistry. We built an economy based on complex supply chains, he explained. This works well, is highly cost effective, and so is difficult to change. Newer chemistries are at a disadvantage.

Key drivers for change are favourable government regulations, and organisations and consumers who are aware of the benefits of green chemistry, and who trust the science.

Accelerators of green chemistry include improved information and knowledge-sharing, enhanced supply-chain collaborations and partnerships, education and training for the next generation of chemists, and a policy mix that de-risks innovation.

The wish list includes a clear and consistent chemicals policy framework that supports innovation; and a competitive chemicals sector and a collaborative value chain that accelerates the commercialisation of greener chemicals and products.

Important actions in this regard are developing criteria to measure if we are going in the right direction, i.e. innovating towards green and sustainable chemistry; establishing partnerships and funding to drive R&D and commercialisation; and improving information and tools for the design of a more sustainable chemistry. Innovation is key to achieving the goals of REACH and obtaining sustainable chemistries, said **Prof Tickner.**

"However, we are trying to put every issue under chemicals policy, and putting all of this responsibility on the chemical industry when the whole value chain, including consumers, must be part of that responsibility. We want to have a more integrated approach to policy and have a big vision, but allow incremental improvement."

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1 Green Chemistry is the utilisation of a set of principles that reduces or eliminates the use or generation of hazardous substances in the design, manufacture and application of chemical products. Source: Green Chemistry: Theory and Practice by Paul Anastas and John Warner, Oxford University Press, 1998.
Sustainable Chemistry aims to improve the efficiency with which natural resources are used to meet human needs for chemical products and services. It encompasses the design, manufacture and use of efficient, effective, safe and more environmentally-benign chemical products and processes. Source: www.oecd.org

Contributor viewpoints:

"ECHA considers it essential that criteria are developed to set goals and monitor progress towards using green and sustainable chemicals, and that these criteria are introduced into R&D funding mechanisms as a crucial step towards companies manufacturing, using and recycling chemicals and products guided by the principles of sustainability and circularity."

Jack de Bruijn, Director, Prioritisation and Integration, European Chemicals Agency – ECHA.

"As a speciality chemicals company with a strong commitment to sustainability leadership, we believe an integrated chemicals policy that promotes safe chemical sustainability, circularity and climate change objectives is key. Clariant has implemented a systematic forward-looking approach enabling it to evaluate its chemicals, continuously develop more sustainable alternatives, and also identify products and solutions with outstanding sustainability advantages, such as those awarded with our label EcoTain®. We are happy to share and exchange on our approach and criteria in promoting sustainable chemistry. For us, it is important to see an accelerated market uptake of innovative, safe and sustainable solutions, and growing consumer trust as a result."

Lynette Chung, Head of Sustainability Strategy and Advocacy, Clariant.

"Our vision is to use only sustainable materials for packaging and core elements by 2030. To start, we marketed our first biobased LEGO elements in 2018. To find technical solutions to achieve our policy, it is important to work with scientists, for example, to evaluate the chemicals we will be using in our future materials."

Yann Le Tallec, Director Government and Public Affairs, EMEA, LEGO Group.

"Innovation from the chemical sector is key to achieving the SDGs, Paris Agreement and the circular economy. We believe entrepreneurs, start-ups and SMEs play a key role, but they are not currently innovative enough. Therefore, the environment for entrepreneurs with sustainable business models should be improved, for example, through new venture capital funds."

Friedrich Barth, Managing Director, International Sustainable Chemistry Centre (ISC3).

"The world is not only facing a climate collapse but also a hazardous chemicals collapse. We need to re-boot the system! A new approach to sustainable chemistry, away from petroleum and mass production, is urgently needed. Policies need to increase the pressure: higher fines for perpetrators and greater support for those moving to non-toxic alternatives."

Sascha Gabizon, Executive Director, Women Engage for a Common Future (WECF).

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Thematic Session 1 **conclusions**

On Day 2, **Prof Tickner** noted the good alignment (industry, public authorities, NGOs, academia) on the goals and what needs to be done to overcome barriers to innovation and the commercialisation of green chemistry technologies.

Group discussions focused on how regulation alone will not drive a supply of green and sustainable chemistries. Policy on the demand side needs to be supplemented by policy that incentivises R&D and commercialisation across the value chain. It's not just about the chemical industry; it needs the whole value chain to work together.

The group's **vision** was of a world-leading, coherent and integrated science-informed policy that incentivises safe and sustainable chemistry innovation and works towards achieving the SDGs. And of an investment-friendly Europe that promotes safe and sustainable chemistry, and concrete measures to bring forward more sustainable chemicals/products in the EU and globally.

OBJECTIVES

The **objectives** proposed by the participants were:

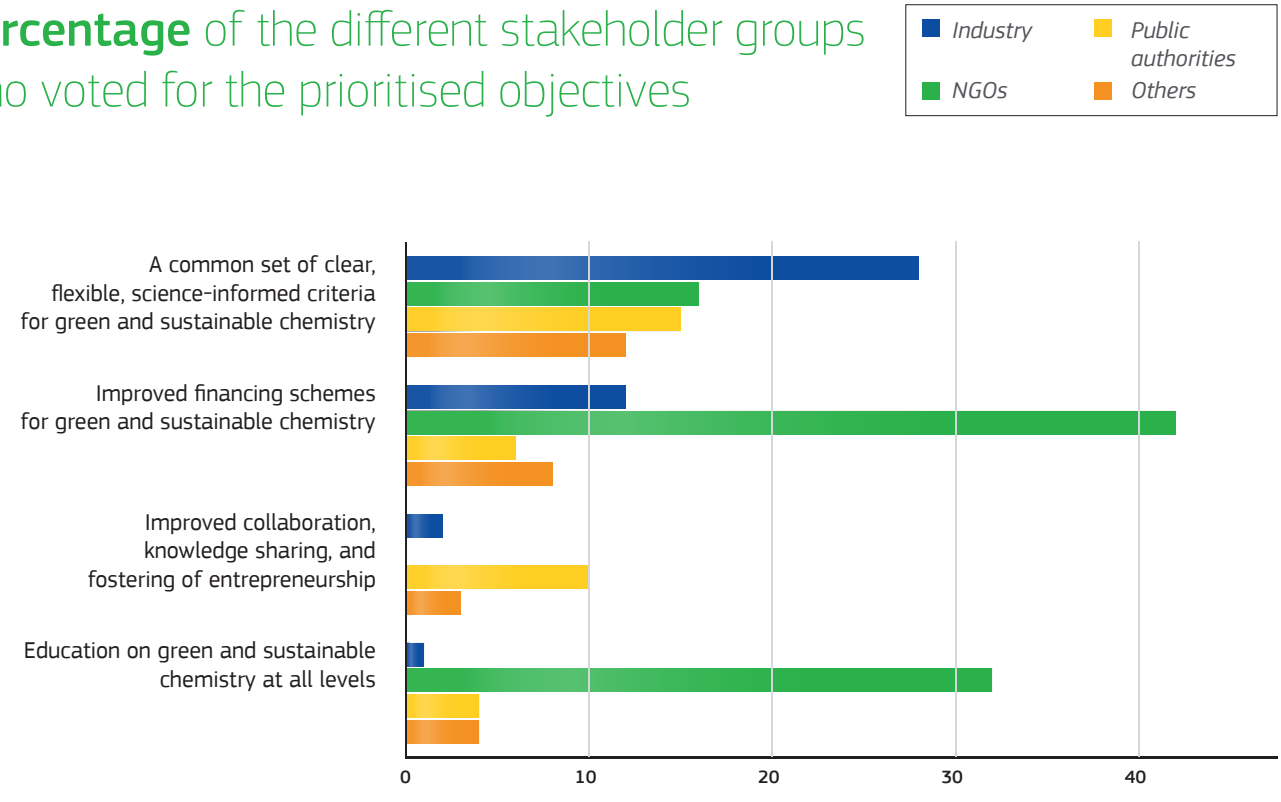
- A common set of clear, flexible, science-informed criteria (safety and other lifecycle attributes) for green and sustainable chemistry and tools/framework/guidance to evaluate against these criteria are established, available, and used;
- Improved financing schemes for green and sustainable chemistry, that make it competitive, including: financial instruments; funding for research; funding for piloting, commercialisation; funding for education; improved market mechanisms to support commercialisation;
- Improved collaborations, knowledge sharing, and fostering of entrepreneurship that advances and drives growth of green and sustainable chemistry; and
- Education on green and sustainable chemistry at all levels.

ACTIONS

Participants identified the following **priority actions:**

- Commission convenes a **stakeholder taskforce to develop criteria** for the development and use of green and sustainable chemistry, with the goal of integrating these into policy frameworks (both incentives and disincentives);
- National authorities and EU to establish **financial mechanisms** to incentivise green and sustainable chemistry solutions, and private banks raise capital to support innovation;
- EU to support the development of **competence/innovation centres and mechanisms** for connecting knowledge with **entrepreneurs and companies along value chains;** and
- EU to develop and promote **programmes of education** on green and sustainable chemistry (e.g. university, profession education, and along the supply chain), with the involvement of Members States and stakeholders.

Percentage of the different stakeholder groups who voted for the prioritised objectives



Thematic Session 2:

Chemicals and the circular economy: safe management of chemicals in products and waste and contribution to resource efficiency

Setting the scene: ***Dirk Jepsen,*** *Executive Director, Ökopol*


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Photo: © European Commission


Photo: © European Commission

When we talk about the circular economy, we are used to seeing the perfect concept diagram. However, in reality only a small share of materials re-enters the cycle. For this material, it is important to understand the sources and entry points of all hazardous substances. This is essential for effective risk management across all chemical and product life-cycle stages, including end-of-life.

Hazardous materials can enter material cycles at multiple stages. For example, as impurities, additives or contaminants, in raw materials, in basic and technical materials during materials production, during product manufacture and use, waste treatment and recycling, and in secondary materials. Therefore, information is needed to assess hazardous substances, particularly Substances of Very High Concern (SVHC), throughout circular material flows.

REACH rules apply to reduce exposure to SVHC to safeguard human health and the environment. However, there remains considerable challenges for actors dealing with waste streams, and further downstream where materials enter a second supply chain. These challenges start when waste sorting or recycling plants need to decide whether a product that has become waste can be prepared for reuse.

The regulatory framework has developed over time, and includes the Strategic Approach to International Chemicals Management (SAICM)[1], the Circular Economy Action Plan[2] and the Plastics Strategy[3]. Chemicals policy centres on the CLP Regulation (on the classification, labelling and packaging of substances and mixtures)[4], REACH Regulation[5] and REACH Review[6]; while the main waste policy is the Waste Framework Directive (WFD)[7], including end-of-waste criteria.

Many elements in these policies could further contribute to preventing hazardous chemicals entering material cycles. **Mr Jepsen** suggested these include an improved and user-friendly database of SVHC, as required under the WFD, that provides necessary information to ensure REACH compliance for reused articles; improved information flows along the supply chain; better enforcement and implementation of REACH and CLP rules; and improved standards for secondary materials.

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1 In 2006, the EU committed to the Strategic Approach to International Chemicals Management (SAICM), a global policy framework to promote safe chemicals management, in line with the World Summit on Sustainable Development 2020 Goal and the UN SDGs.
2 http://ec.europa.eu/environment/circular-economy/index_en.htm
3 https://ec.europa.eu/commission/news/eu-plastics-strategy-2018-nov-20_en
5 https://echa.europa.eu/regulations/clp/legislation
5 https://echa.europa.eu/regulations/reach/legislation
6 http://europa.eu/rapid/press-release_IP-18-1362_en.htm
7 http://ec.europa.eu/environment/waste/framework/

Contributor viewpoints:

"The interface between a circular economy and a safe, non-hazardous chemical environment is crucial to achieve a sustainable European chemicals industry. Our goal must be to circulate materials within the system and at the same time ensure safe chemicals management, and the avoidance of hazard."

Mats Linder, Independent circular economy expert.

"Full disclosure of the chemical composition of materials is a fundamental first step towards circularity. It's the only way to avoid bad surprises like playgrounds made from recycled tyres exposing children to carcinogens. In any event, circularity must not continue the overexploitation of resources or the high level of production and consumption of hazardous chemicals."

Alice Bernard, Environmental Lawyer, ClientEarth.

"The use of certain materials with hazardous properties remains essential. Our collective priority is to ensure that these materials are manufactured, used and recycled safely. Europe's circular economy will include hazardous metals by necessity, but true and safe circularity can be ensured through cooperative work from all actors (authorities, industry, academics and society representatives)."

Violaine Verougstraete, Chemicals Management Director, Eurometaux.

"It is crucial to achieve risk-free non-toxic material cycles and guarantee the production of high-quality secondary material. In addition, improving waste management knowledge to improve treatment efficiency for environmental and safety aspects, and to level the playing field between recycled and virgin materials, are of the upmost importance."

Baudouin Ska, Policy Officer, FEAD European Federation of Waste Management and Environmental Services.

"It is crucial to improve the interface between waste and chemicals legislation, while ensuring the recycling industry boosts circularity and protects human health and the environment. This starts with eco-design, to phase out SVHC from products, adapting chemical legislation to circular material flows, setting EU-wide end-of-waste criteria, and providing incentives to increase demand for recycled materials."

Olivier François, GALLOO – Expert for the European Recycling Industries' Confederation (EuRIC).

Photo: © European Commission

Thematic Session 2 **conclusions**

On Day 2, **Mr Jepsen** presented the session's findings to the conference.

The main **discussion** focused on the interface between chemicals, products and waste; traceability and access to information on hazardous substances in products and waste; quality standards for secondary raw material; and enforcement of chemicals and product legislation at the EU border and globally.

The group's main **vision** was for a safe, transparent and sustainable circular economy, with an emphasis on the design of high-quality and safe products that maximise circularity. Industry stressed the need for an EU chemicals framework that maximises the value of materials without compromising safety. Ultimately, Europe should lead globally in demonstrating risk-free material cycles for the transition towards the circular economy.

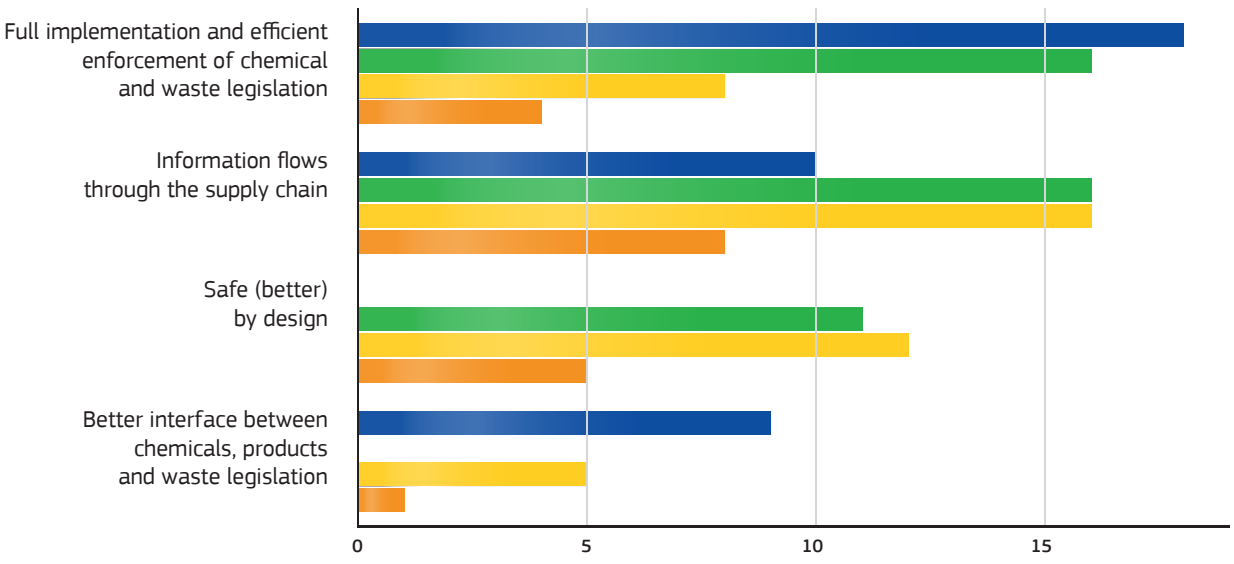
PRIORITY OBJECTIVES

Priority objectives proposed by participants:

- **Full implementation and efficient enforcement of the EU waste and chemicals legislation;**
- **Better interface between chemicals, products and waste legislation;**
- **Sufficient and transparent information and efficient information flows through the supply chain;** and
- **Safe (better) by design.**

For this thematic session, differentiation between objectives and actions remained vague e.g. implementation and enforcement of the existing legislation. There was considerable disagreement among stakeholders on the concrete actions to take. It also could be noted that not all aspects were discussed and some of them are possibly controversial. The continuous use by regulators of chemicals legislation to phase out substances of concern received support from all stakeholder groups. The idea that there should be a shift from hazard-based identification (waste legislation) to risk-based approaches (chemicals legislation) was strongly backed by industry and strongly opposed by NGOs, with no votes expressed in favour of this option by public authorities. Industry also strongly supported harmonisation of end of waste criteria. Policy makers should ensure that an appropriate level of information is shared across value chains to ensure safe use and recycling – this idea was supported by all stakeholders groups.

Percentage of the different stakeholder groups who voted for the prioritised objectives



Thematic Session 3:

Improving the regulatory framework for risk assessment and risk management of hazardous chemicals

Setting the scene: ***Kęstutis Sadauskas,*** *Director, DG Environment, European Commission*


Photo: © European Commission

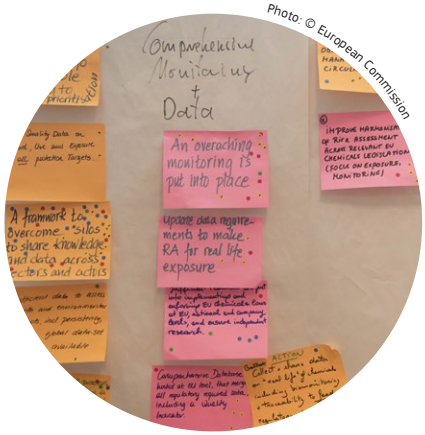


Photo: © European Commission


Photo: © European Commission

REACH initiated a revolution in chemicals management, by closing the knowledge gap on over 22 000 chemicals in everyday use in the EU. It introduced the principle of "no data, no market", by shifting the burden of proof to industry. The CLP Regulation on classification, labelling and packaging of substances, implemented in the EU the UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS). The agencies ECHA and EFSA were established, in 2007 and 2002 respectively, and together with their scientific committees and panels provide decision makers with valuable advice on hazard and risk assessment.

Recent evaluations of the legislative landscape of chemical risk assessment and management showed it to be fit for purpose and to have many strengths. However, challenges remain. Current regulatory measures, for example, only manage certain aspects of overall chemical use, and their related exposures and risks, leaving some shortcomings in achieving health and environmental protection.

Mr Sadauskas listed a number of areas for improvement, including the need to make risk assessment and risk management more consistent, coordinated and streamlined across chemicals legislation, and to move towards an overall simplification of our regulatory framework, with REACH and CLP at the centre.

A lack of resources still presents a great challenge for the implementation and compliance of current legislation. ECHA's compliance checks showed that about two thirds of the registration dossiers submitted by industry do not fulfil the safety information requirements.

The current substance-by-substance approach is generally effective in identifying the hazards of a specific substance, but there is growing concern about chemical combinations and cumulative exposures.

An important gap in the current legislative framework is that there is no overarching approach for the protection of vulnerable groups in society. They are not always addressed consistently across chemical sectors. For example, the Plant Protection Products Regulation and the Biocidal Products Regulation take into consideration pregnant/nursing women and the unborn, while the Pregnant Workers Directive only covers risks to pregnant workers (and not to the unborn child).

Furthermore, substitution of hazardous substances by less harmful alternatives has not yet occurred to any notable extent.

Finally, we must improve not only our understanding of overall impacts of chemicals on the environment, especially on biodiversity, populations, and ecosystem resilience, we must also channel this understanding faster into policy measures.

Contributor viewpoints:

"At EU level, risk analysis of substances for food and non-food uses falls under different legislative frameworks, which could lead to divergences in risk assessments or decisions. This could jeopardise consumers' trust in the system that protects public health and the environment. Therefore, I believe a more consistent strategy to assess, manage and communicate on risks must be a priority for the Commission."

Sabine Jülicher, Director for food and feed safety, innovation in the Directorate-General for Health and Food Safety of the European Commission.

"It takes decades to regulate dangerous substances that should never have been marketed in the first place. Meanwhile, people and the environment are unnecessarily exposed. We urgently need better implementation of existing regulations and a simplified overarching regulatory framework, which prioritises prevention and substitution, and ensures chemicals are proven safe before they reach the market."

Tatiana Santos, Policy Manager: Chemicals & Nanotechnology, European Environmental Bureau.

"We need to unlock the full potential of the most advanced regulatory system in the world by consolidating its fundamentals and making sure existing rules are properly applied. In parallel, we should seek to integrate new dimensions, primarily circular economy needs and drivers."

Sylvie Lemoine, Executive Director Product Stewardship, Cefic.

"Policy actions should include development of an EU regulatory register of chemicals across sectoral legislation; a common chemical risk strategy for EU and Member State regulatory actors; and increased harmonisation of legislation, for example, CLP and REACH with downstream legislation like that covering food contact materials, cosmetics, pesticides, and human and veterinary medicines."

Guilhem de Seze, Head of Department – Scientific Evaluation of Regulated Products, European Food Safety Authority.

Photo: © European Commission

Thematic Session 3 **conclusions**

Mr Sadauskas presented the findings of Thematic Session 3 to the conference.

The **topics discussed** included strengths and areas of improvement within the evolving EU regulatory framework of risk assessment and management; simplification; substance-by-substance vs groups; and the integration of science into policy.

He noted that there was generally a good consensus among the different stakeholder groups in this thematic session.

The **vision** was clear: A coherent, harmonised and transparent EU chemicals and products policy. It should achieve safe and sustainable chemicals for human health and the environment and future generations, and be fast and comprehensive (including mixtures and better protection of vulnerable groups).

OBJECTIVES

The **objectives** proposed by the participants were:

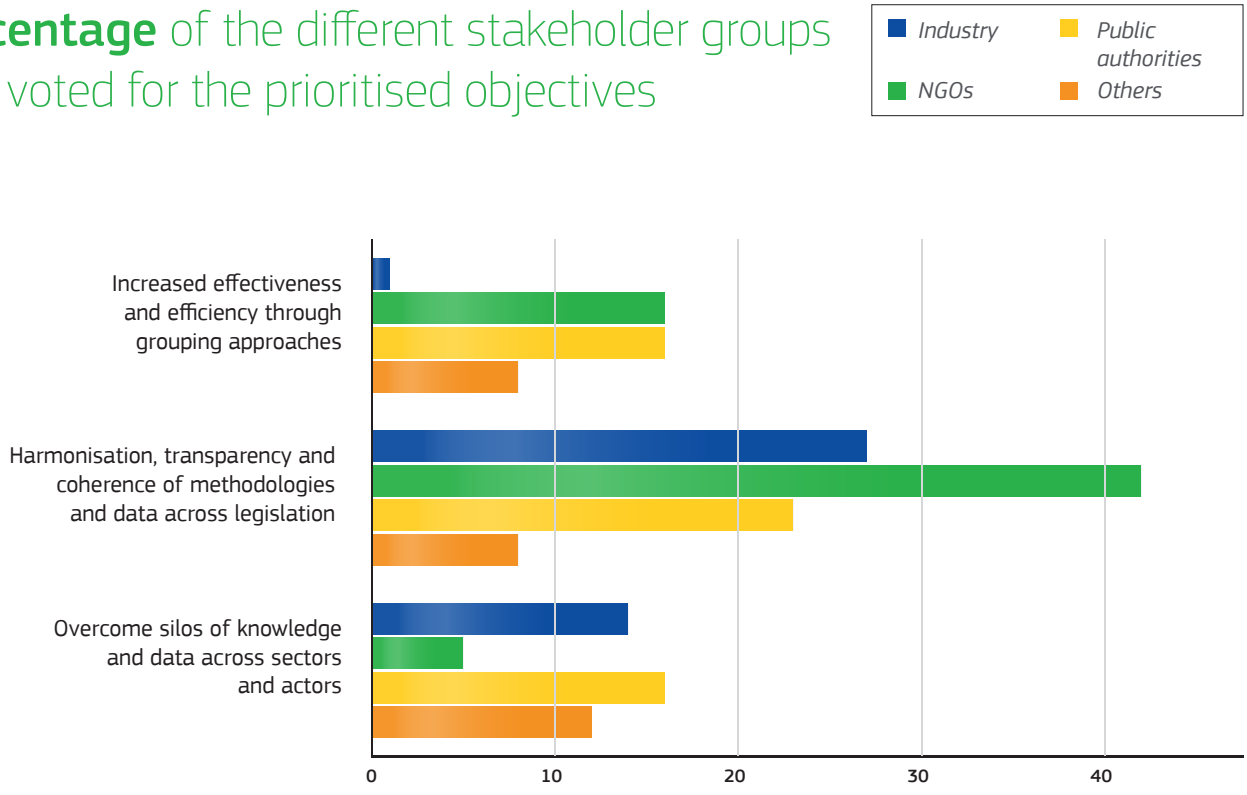
- Increased effectiveness and efficiency through groups approaches;
- Harmonisation, transparency and coherence of methodologies and data across legislation; and
- Overcome silos of knowledge and data across sectors and actors.

ACTIONS

Participants also identified a number of future **priority actions:**

- **Governance mechanism to bring EU regulators together** across chemical sectors;
- **Chemical grouping** for better protection, predictability and to avoid regrettable substitutions;
- **Fully connected and inter-operable EU chemical safety databases;**
- **Comprehensive monitoring** to collect exposure, use and impact data;
- **Standardisation** of data requirements and risk assessment methodologies;
- **Harmonised and sufficiently resourced enforcement;** and
- **Independent safety testing** with funds from industry (mainly supported by NGOs).

Percentage of the different stakeholder groups who voted for the prioritised objectives



Thematic Session 4:

Knowledge building, monitoring and early warning on emerging risks

Setting the scene: ***Xenia Trier,*** *Expert on Chemicals, Environment and Human Health, European Environment Agency (EEA)*


Photo: © European Commission

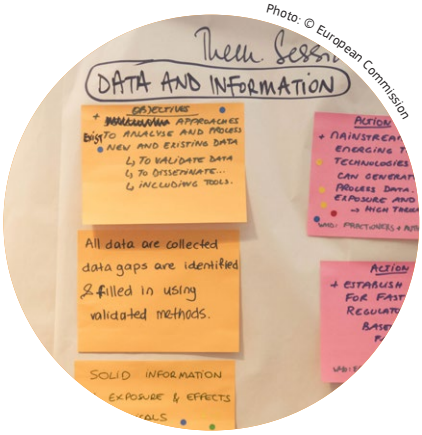


Photo: © European Commission


Photo: © European Commission

Chemicals are covered by over 40 EU regulations, including REACH, CLP, and by sector-specific regulations on, for example, pesticides and biocides, food additives, pharmaceuticals, industrial emissions and air pollutants.

The societal goal is that chemicals and products provide services to society, while being safe and sustainable across life-cycles and for future generations.

However, chemical pollution negatively impacts human health and well-being, biodiversity and ecosystems.

Therefore, the question is, what is the total/critical burden of chemicals that humans and ecosystems can take without damaging their function, lives or resilience?

Risk assessment is the main tool used to manage risks in Europe, but it is data intensive and when data is scarce so is its ability to inform risk governance. Knowledge gaps relate to the development of precautionary risk governance tools; total impact/effect of accumulated exposures to chemical mixtures across legislations; and levels and prevalence of chemicals, particularly close to emission points and in predators, soil and indoor air.

Nevertheless, better use can be made of data, by including multiple strains of evidence in risk assessments, and improving interoperability and access to data (e.g. industry data on hazards and occurrence data via the IPCHEM portal).

Financial and business tools can help drive innovation in the upstream protection of human health and the environment, for instance, by developing insurance schemes, and by supporting business models focussing on safe-and-circular-by-design services and extended producer responsibility (EPR) tools. A societal debate of essential vs. non-essential uses of hazardous chemicals may also address the volumes used.

"It is the total mixture of chemicals that impacts the health and resilience of people and ecosystems," said **Dr Trier.** "Firstly, we need policy-oriented science to design up-stream regulatory tools, to enable effective, cross-legislative and precautionary actions. Secondly, we could lower the total chemical burden by phasing out known hazardous as well as non-essential persistent substances. And finally, in the design phase of chemicals and products, we could make better use of our knowledge on safe vs. hazardous chemicals (i.e. make them safe-and-circular-by-design). Such upstream actions would lower the total chemical burden and thereby be effective steps towards creating a safe, circular and sustainable economy, also for future generations."

Contributor viewpoints:

"We would like the EU to work rapidly to identify and phase out chemicals that are affecting neurodevelopment, endocrine or immune function, and regulatory action should be taken to protect against the effects of chemical mixtures. In addition, we must protect people with particular susceptibilities (including genetic susceptibilities), and key ecosystems and species."

Michael Warhurst, Executive Director, CHEM Trust.

"Improved competence is needed in the area of chemicals, health and environment. This is necessary for promoting science-based decisions on chemical risks to establish a non-toxic environment. The chemicals policy 2030 also needs to better link environmental effects and human health to exposure to chemicals, to manage pollution threats, and to lower the societal cost of inaction."

Åke Bergman, Senior Professor at ACES, Stockholm University.

"By 2030, the EU should install an efficiently-structured and sustainably-financed 'Science - Chemicals Policy - Interface', to establish links between research hubs, such as 'human biomonitoring', 'environmental monitoring' and 'test methods in toxicology', and policymakers. These can help in framing research topics and in channelling findings towards the policy making level."

Thomas Jakl, Austrian Environment Ministry.

Photo: © European Commission

Thematic Session 4 **conclusions**

Dr Trier presented the session's outcomes to the conference.

The topics **discussed** focused on data and knowledge needs; exposure and effects on ecosystems and humans; better structures to promote data access and knowledge sharing in support of competence building, for example, in SMEs; and the need for early warning systems and faster actions on identified issues.

The collective **vision** was to more effectively protect human health and the environment from the harmful chemicals, including mixtures, through the establishment of early warning systems targeting key chemicals and sensitive species; by the creation of a formalised science-policy based structure to share and increase competences and to develop regulatory tools addressing chemical risks from across legislations, also when evidence is limited.

Alongside these visions, there was a wish to continue the generation of reliable, robust data on chemicals to feed into existing risk assessment schemes, and to facilitate enforcement and information along the supply chains.

OBJECTIVES

The **objectives** proposed by the participants included:

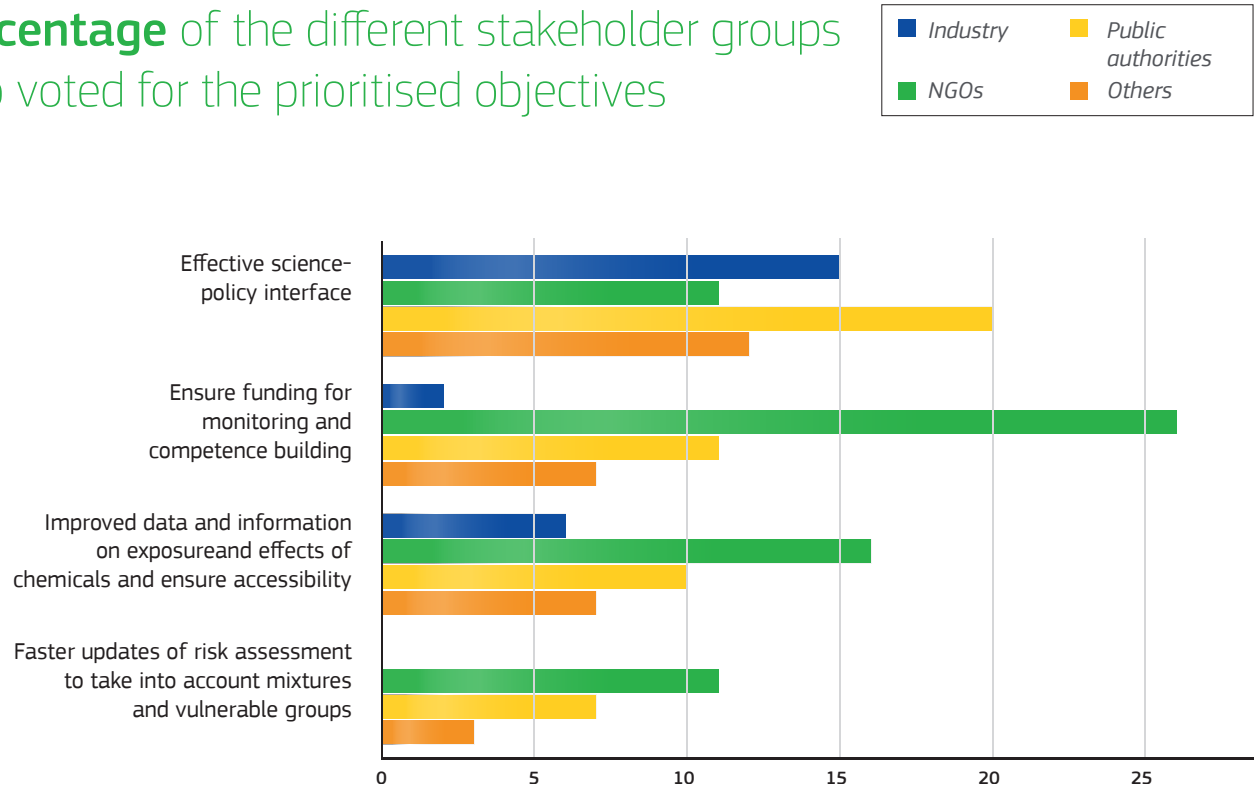
- Effective science-policy interface to ensure better uptake of scientific findings in policy and that scientific research is aligned with policy needs;
- Ensure funding for a research monitoring programme to understand effects on ecosystems and human health, as well as training for the next generation of toxicologists, risk assessors and health professionals;
- Improved data and information on exposure and effects of chemicals throughout the product/chemical lifecycles and ensure accessibility to existing and new research data from different sources (national, EU, industry); and
- Faster updates of risk assessment, also informed by multiple strains of evidence and novel techniques (e.g. AI and big data), to take into account, in particular, mixture effects and protect vulnerable groups.

ACTIONS

Priority actions identified by participants:

- Mainstream emerging **tools/techniques to generate/process cheap and reliable high-throughput data** on hazards and exposure (before chemicals enter the market) and for monitoring the occurrence of (groups of) substances on the market (strong support from industry and authorities, but not NGOs);
- Develop **regulatory tools** that can take **early action on early warnings** – and to **extend early warning systems** for key chemicals and species (strongest support from NGOs and authorities);
- Generate **an open access repository on data, metadata, effects and related assessments and policy recommendations** (strongest support from authorities and industry);
- Create a **cross-legislation, cross-institutional and cross-stakeholder task force,** focused on knowledge building, monitoring and science-policy tools to drive the research agenda and guide risk management systems (strongest support from authorities, academia).

Percentage of the different stakeholder groups who voted for the prioritised objectives



Thematic Session 5:

Smarter communication, better protection and lower costs: meeting citizens' concerns, completing the EU Single Market and ensuring a level playing field

Setting the scene:
Kirsi Ekroth-Manssila,
Head of Unit "Chemicals",
European Commission,
DG Internal Market, Industry,
Entrepreneurship and SMEs


Photo: © European Commission

This thematic session is about three things: 1) addressing consumer and citizen concerns using smarter communication; 2) better protection at lower costs for companies, by cutting unnecessary red tape; and 3) ensuring a level playing field and completing the Internal Market, by stepping up efforts and building capacity for the implementation and enforcement of EU chemicals legislation.

These three aspects together are a very pragmatic demonstration of the objectives of our chemicals legislation, she said. Our evaluations concluded that these objectives remain relevant and have been achieved to a large extent. Where we haven't achieved them fully, we have identified why.

Labelling is a key tool for communicating information about chemicals to consumers. The CLP Regulation sets the rules for hazard communication in the form of labelling. There are also a number of additional sector-specific labelling requirements.

However, the way we communicate hazard and safety information or instructions is not optimal. The level of understanding of downstream users and consumers can be improved. There are also administrative burdens and unnecessary costs that can be reduced.

Our conclusion is that existing legislation does not allow us to communicate hazard information sufficiently effectively and efficiently. For this to happen we need to simplify and streamline labelling requirements. Legislation can also become smarter, more up-to-date, and take advantage of new digital solutions. We also know that implementation and enforcement of EU chemicals legislation is challenging for authorities due to resource and capacity constraints, she said. Compliance with the existing rules is also more difficult for companies when the rules are not clear, and when they lack sufficient resources.

A new challenge for EU chemicals policy is online sales. This is a particular challenge for market surveillance authorities. It needs to be addressed to ensure consumer protection, as well as fair competition.

"This Commission is providing future decision makers with an overarching assessment of how EU chemicals legislation works, and what are its strengths and weaknesses," said **Ms Ekroth-Manssila.** "Which objectives should we set for ourselves in this area and which steps would you like us to take?"

Contributor viewpoints:

"I would like to see strong and continuous regulation of hazardous substances, especially for PFAS, where safe regulation is still lacking, and bisphenols, and the development of appropriate testing methods for newly-invented chemicals before they enter the market. We should also recognise the importance of early warnings."

Signe Frese, Corporate Social Responsibility Director, Coop Denmark.

"The industry vision of A.I.S.E. is to drive smarter consumer communication by addressing the issue of overcrowded and redundant on-pack information that is hardly understood by consumers. The objective is to provide to the consumer product information in a transparent and meaningful way via simple labels focusing on safe use and via on-line tools."

Susanne Zänker, A.I.S.E. (International Association for Soaps, Detergents and Maintenance Products).

"Consumer products, including those bought on-line, should be free of harmful chemicals and safe for the consumer. There is need for a new strategy addressing chemicals in products to prohibit the use of substances of concern in all products, as well as to strengthen product-specific requirements for identified high-risk product areas like childcare articles."

Stine Müller, THINK Chemicals, Danish Consumer Council/ANEC.

"Policy actions we have identified include further development of chemicals regulation to address negative health impacts; better implementation and much more effective enforcement; better market surveillance by Member States; improved information flows on component materials; and support for research where gaps exist."

Jitka Sosnovcová, Senior Risk Assessor, National Institute of Public Health, Czechia.

Photo: © European Commission

Thematic Session 5 **conclusions**

On the second day of the conference, **Ms Ekroth-Manssila** presented the session's findings to the whole conference.

The main **discussion** topics focused on addressing citizens' and consumer concerns via smarter communication; better protection at lower cost to companies; stepping up implementation and enforcement efforts; and addressing the challenges of imported articles, particularly from online sales. I think we can work better in this area by working closely together and listening to each other, she said.

The group's **vision** was to have safe and sustainable products on the EU market, and for consumers to have access to simple, understandable, harmonised and science-based information, which empowers them to make informed decisions and builds trust in the products.

OBJECTIVES

Participants proposed many **objectives**, with the following receiving the most votes:

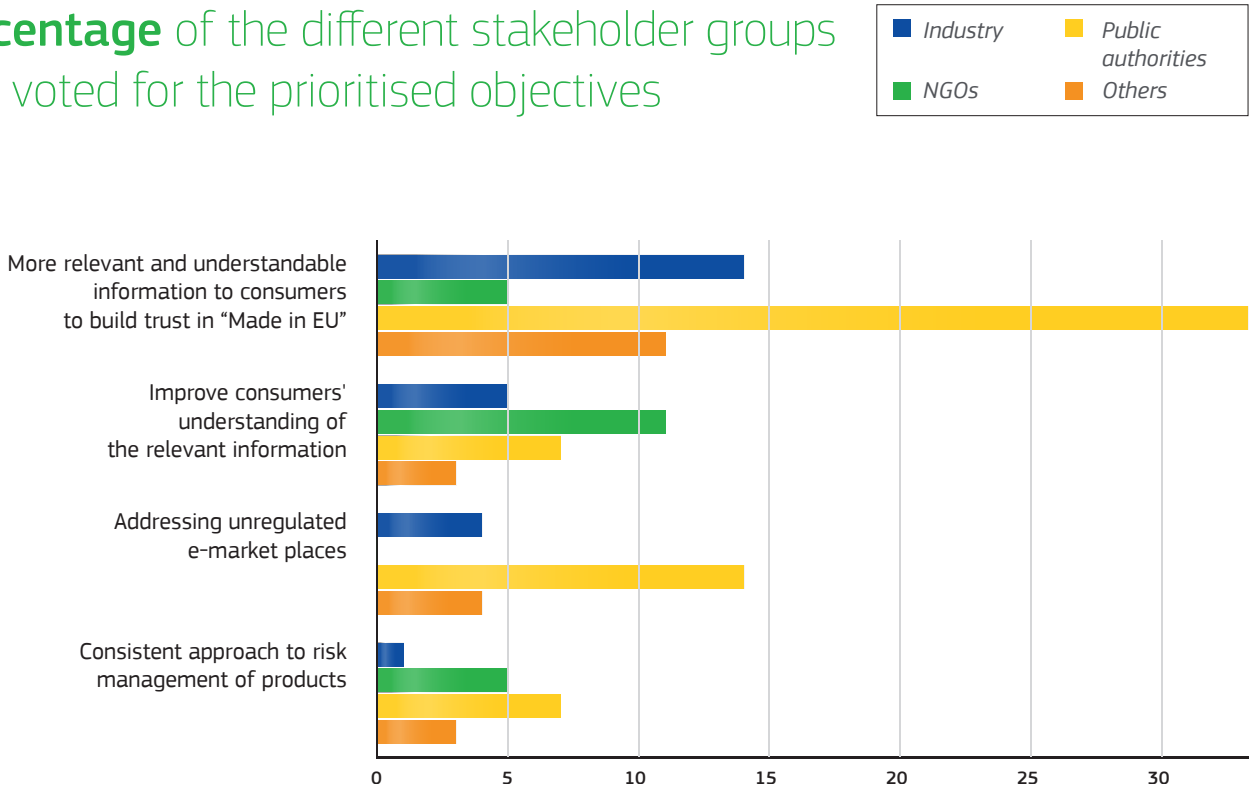
- A **consistent approach to risk management** of products;
- **Addressing unregulated e-market places;**
- More **relevant** and **understandable information** to build trust in "Made in EU" products, and
- Improve **consumers' understanding** of the relevant information (awareness raising, education and improving the knowledge)

ACTIONS

Priority actions proposed by participants:

- **Consistent legal framework** to deal with the most hazardous substances (mainly supported by Member States and NGOs);
- **Very strong enforcement** of EU chemicals legislation;
- **Level playing field for online shopping,** both within and coming from outside the EU through enforcement and better communications; and
- **Simplification through digitisation** (smart labelling and the use of digital tools).

Percentage of the different stakeholder groups who voted for the prioritised objectives



Thematic Session 6:

The EU chemicals policy and global challenges: sustainability, innovation, competitiveness

Setting the scene:
Henrik Søren Larsen,
Head of Department,
Ministry of Environment and Food, Denmark

Chemical production will double in the next 10 years. The EU's share of that production will fall, even though the value of EU production will increase. The chemical sector is the largest consumer of oil and gas, as both a resource and for energy. 10% of mineral oil extraction is used as a feedstock in the chemicals sector, and 12% for energy demand, with implications for climate and other policy areas.

Furthermore, there are massive costs of inaction on hazardous chemicals in terms of healthcare, for example, due to endocrine disruptors, carcinogenic and fluorinated substances.

The UN's Strategic Approach to International Chemicals Management (SAICM), which aims to foster the sound management of chemicals globally, plays a key role in reducing risks to human health from chemicals on a global scale. It is currently looking at setting its agenda beyond 2020.

Chemicals are also part of the solution to global challenges. They will help enable a sustainable future, and help to build the circular economy. However, there is a need to work at the same time on "the three sides of the triangle" in a coherent way: energy, resources, and environmental and health risks.

In terms of EU chemicals policy in 2030 in a global context, "Are we going to walk the talk?" asks **Mr Larsen.** That is, are we going to set global standards, keep knowledge and regulation up-to-date, produce the best products using safe-by-design approaches and sustainable and green chemistry, increase producer responsibility, and become a global leader in SAICM, the UN conventions and the 2030 Agenda's Sustainable Development Goals (SDGs)?

Contributor viewpoints:

"My vision would be for new levels of ambition, coherence and collaboration to achieve EU chemicals policy goals and SDGs, including a maximal contribution from the chemical sector. As objectives, we have mutually-agreed, easy-to-understand measurable targets to achieve SDG targets, and work to close the still-growing gap in chemicals management capacities between developing and developed countries."

Hans-Christian Stolzenberg, Head of Section International Chemicals Management, German Environment Agency (UBA).

"The EU should do more to translate advances in innovation and sustainability into a global competitive advantage. Regarding chemicals policy, this means better application of systems in place, creating a long-term predictable market, and championing progress. Innovators, mavericks and first-movers should be encouraged, and with our focus on #SustainablePublicAffairs we take great pride in helping them turn their leadership into a competitive advantage."

Willem Vriesendorp,
Fipra.

"Borealis supports the effort to improve the quality of data/information, testing methods and guidelines. The Circular Economy Package needs to include higher and transparent recycling targets and a harmonised calculation method; the legal framework needs to be enforced and incentives need to be created; the EU can encourage research and cooperation along the value chain; and we need to commit to turning the plastic economy circular at a global scale."

Eugenio Longo,
Borealis.

"We want the EU to become a driver for international chemicals policy that works towards phasing out chemicals of concern, with full transparency in supply chains and to consumers. There is a need for a financial mechanism or global fund to tackle exposure reduction to chemicals, which is accessible to all relevant stakeholders with industry as the main contributor."

Anita Willcox, Project Officer on Mercury, European Environmental Bureau.

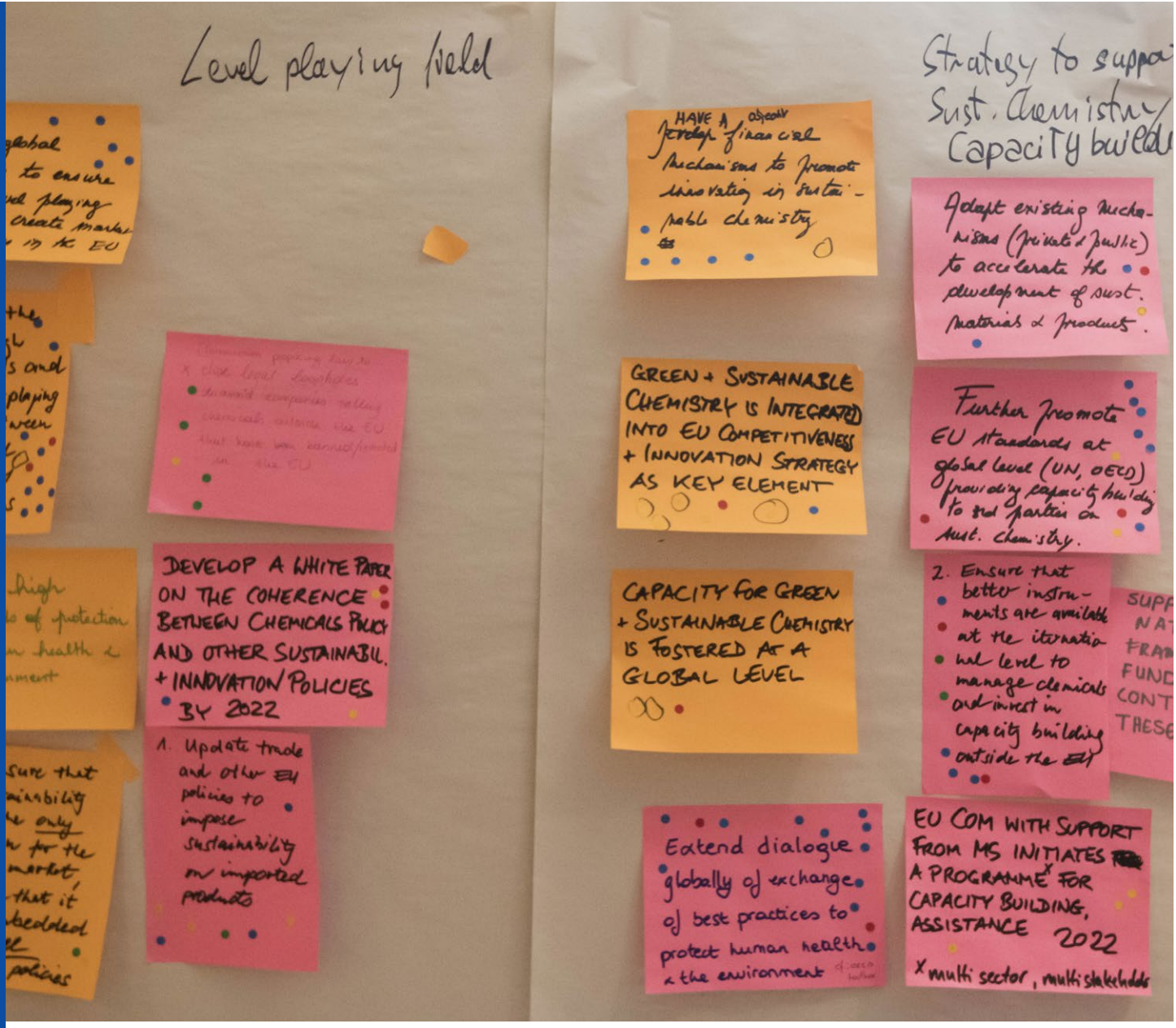


Photo: © European Commission

Thematic Session 6 **conclusions**

On Day 2, **Mr Larsen** presented the outcomes to the conference.

The topics **discussed** included the costs of inaction to exposure to hazardous chemicals; sustainable development (globally and in the EU); the SAICM Beyond 2020 process; and chemicals as part of the solution for a sustainable future.

A good consensus formed around the group's **vision:** an EU policy that shapes global policy and governance towards sustainability, safety and innovation; that leads globally on sustainable chemicals management; and promotes the EU's leading role in sustainable chemistry and innovation. Industry, in particular, envisioned that an integrated approach and sustainable products should be the main business model.

OBJECTIVES

Participants proposed the following **objectives:**

- Global harmonised risk management system on chemicals and waste, integrating circular economy;
- Same high standards for EU/non-EU chemicals, products, waste, to ensure a level playing field and high level of protection;
- Promoting sustainable chemistry financially, integrate in competitiveness and innovation strategies and enable capacity building at the EU and global level; and
- Transparent and efficient global data sharing platform.

ACTIONS

Priority actions identified by participants:

- **Establish criteria** to measure progress of actions addressing issues of global concern, and the implementation of legally binding measures;
- EU **pilot for circular economy** based on LCA approach (to convince rest of world to adopt circular economy);
- Dialogues, partnerships and capacity building to **promote best practices on health and environmental protection,** and to ensure sufficient Regulated Market (RM) instruments, including in trade agreements; and
- **Harmonised end-of-waste criteria.**

Percentage of the different stakeholder groups who voted for the prioritised objectives

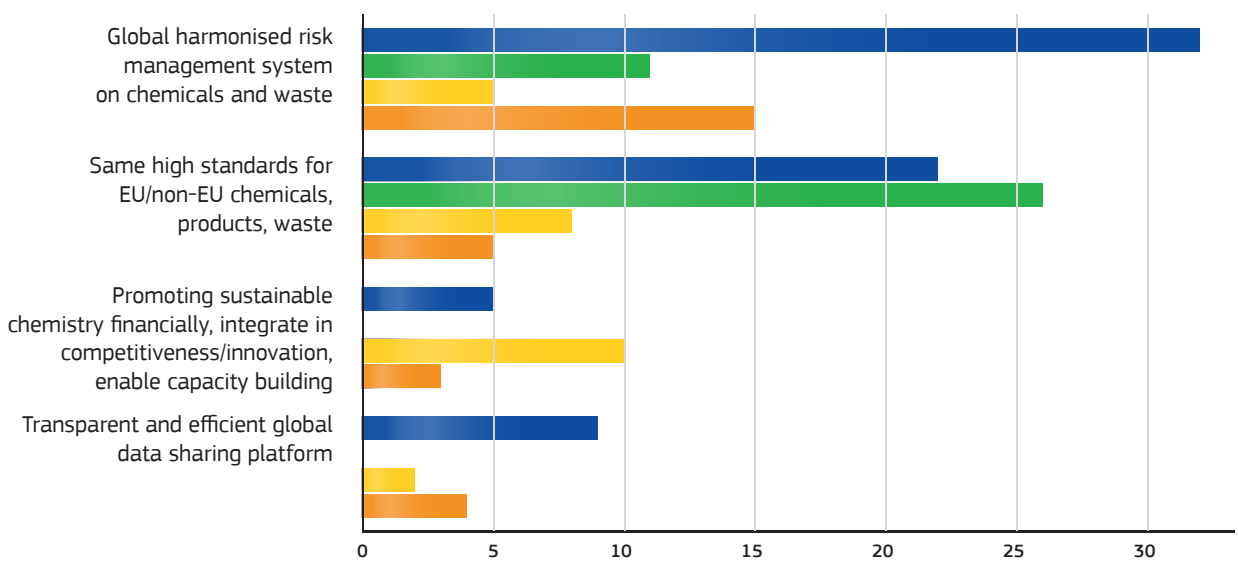


Photo: © European Commission

Moving the EU Chemicals Policy to 2030

Promoting Sustainable Innovation, Knowledge Building and Smart Communication

Panel Discussion

The members of the panel were:

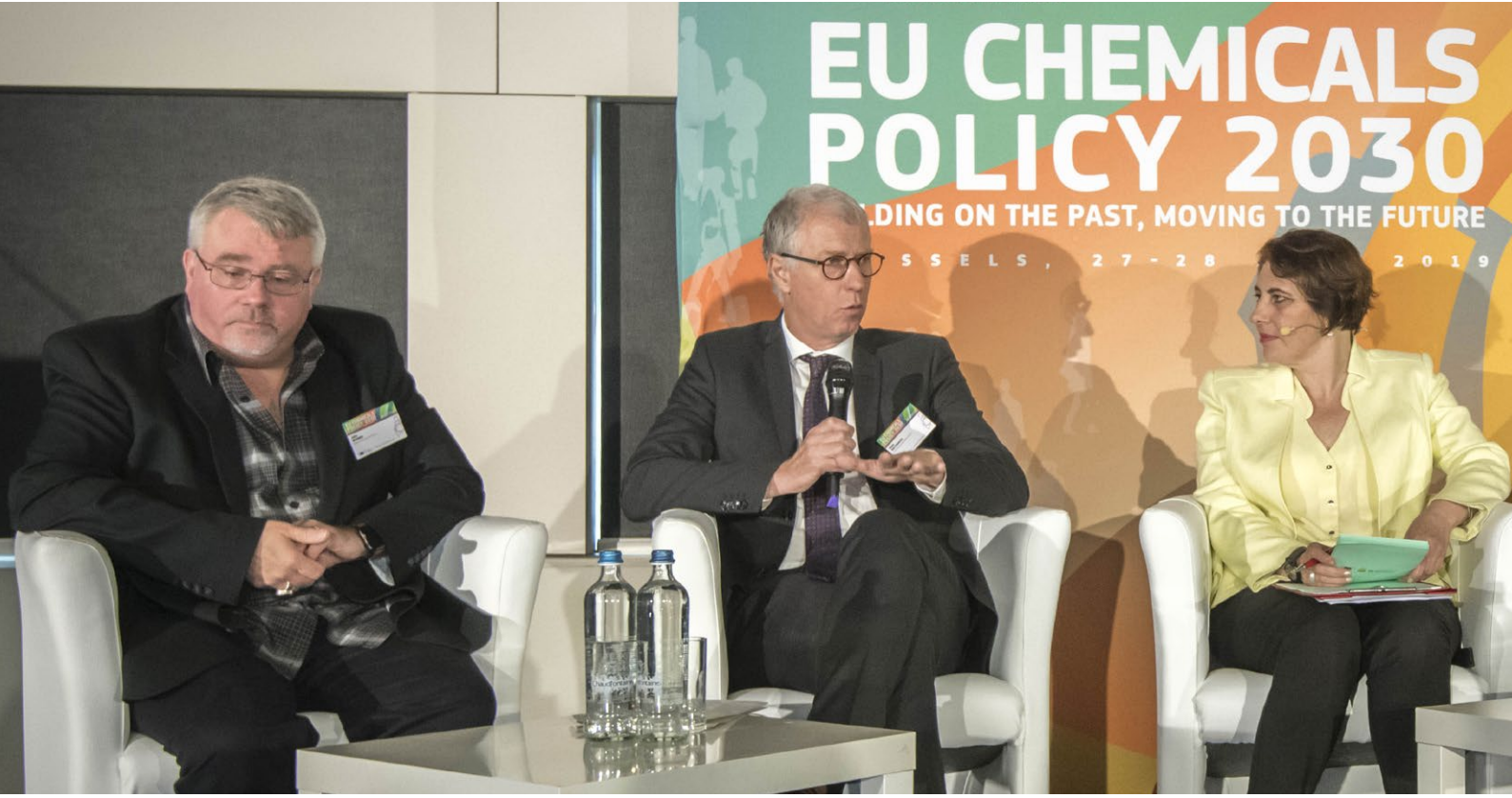
John Warner,
Co-founder and President of
Warner-Babcock Institute for Green Chemistry;

Hans Bruyninckx,
Executive Director, European Environment Agency (EEA);

Génon Jensen,
Executive Director, Health and Environment Alliance (HEAL);

Véronique Willems,
Secretary General, SMEunited;

Leena Ylä-Mononen,
Director General for Environmental Protection,
Ministry of Environment, Finland.



The importance of education

John Warner expressed his concern that the next generation of chemists are not getting the necessary information they need to invent the next generation of green materials.

"If you review the curricula of any university and look at the courses a student must take to become a chemist or chemical engineer, you will find less than 5% of universities worldwide require students to have training in how to predict whether a molecule is potentially harmful to human health or the environment," he said.

Therefore, the only time we can start assessing chemicals is after they exist. It would make more sense to link chemistry with the fields of toxicology and environmental health science, so that we assess these issues before the materials are invented.

"It is not that the information is not there, it is that the people inventing new molecules don't speak the same language and don't have access to that information. If we could train the next generation of scientists to understand these issues and how to access this information that has been generated, then we can start imagining making new products that don't have those negative attributes."

He related how many companies, when they hire a new set of students, provide green chemistry workshops for them to fill the gap in their education.

"Academia is not really looking to invent green chemistry, while industry desperately needs to invent green chemistry. As 85% of academic students end up in industry, we are missing an opportunity to train the students; but more importantly, we could change the very meaning of what it means to be a chemist. It could be a gamechanger."

Achieving societal goals

Hans Bruyninckx, Executive Director of the EEA, said we should ask ourselves why we want to change chemicals policy. If it is to achieve societal objectives, globally as set out in the UN Sustainable Development Goals (SDGs) and at European level by moving towards a low-carbon society, a circular economy, and a high level of protection of natural capital and human health, then we will need to go through a fundamental transition.

"It is pretty clear that if the chemicals sector does not go through a similar transition, we will not reach those 2030 objectives, because chemicals are critical to all of those objectives and I think that means we need a new chemicals paradigm," he said.

Such a transition would need to take into account, for instance, where we source chemicals, the type of chemicals we produce, how materials are kept in cycles, impacts on human health and the environment, and who pays the costs.

"For me they are all dots that we need to connect. The message is clear: we have a sense of urgency, on climate, on biodiversity, on human health. We need to speed things up, scale it up, use the knowledge that we have, with the additional knowledge that is needed, and we need to get there by 2030. We have a big piece of work ahead of us," concluded Mr Bruyninckx.

Protecting human health

Génon Jensen gave the HEAL (Health and Environment Alliance) perspective on why an ambitious chemicals policy for 2030 is necessary.

"We are particularly coming at this as an opportunity to prevent disease and serious health problems that are attributable to chemical exposure. Our addiction to synthetic chemicals is making us sick. We need to have this paradigm change," she said.

Chemicals are known to be linked to a wide range of health problems, so HEAL would like to see health protection put first in the way we address chemicals.

"That means looking across regulations, looking at combined exposures, and looking at eliminating exposures, particularly

Photo: © European Commission

for the most vulnerable who have more susceptibility."

"We must go quicker. If we are going to make our 2030 goals and the SDGs, we must promise to reduce the impacts of hazardous chemicals on people's health and the planet. The Commission needs to bring out a non-toxic environment strategy without delay. We are also looking forward to seeing an endocrine disrupting strategy."

The important role of SMEs

Véronique Willems of SMEunited, the association of crafts and SMEs in Europe, agreed with the need for a sense of urgency around these issues. From an SME's point-of-view, this presents both challenges and opportunities.

"SMEs will be the key actors in this systemic change," she said. "If you don't have SMEs, which are the biggest part of the EU business population, you won't make the change."

With reference to EU chemicals legislation objectives, she said that progress has been made for environment and for the health of consumers, but there is still a lot to do in terms of competition and innovation.

In particular, the complexity of EU chemicals legislation can be a barrier to competitiveness and innovation for SMEs.

"It was stated in the REFIT exercise that was published this week that it can be very challenging for SMEs to apply REACH. It is even stated that the rules need to be clearer if we want to have compliance at a good rate."

Leena Ylä-Mononen from the Finnish Ministry of Environment also stressed the urgency of the global challenges to be addressed.

"Problems relating to the circular economy and climate change are really global, not just EU challenges," she said. However, she is optimistic that EU chemicals policy can help lead the way in solving these problems.

"I think there is real momentum for the chemicals policy 2030. I was there in the discussion with the European Environment ministers this week, and it was great to see how many of them took the floor during debates," she said. While they were widely agreeing, they were also putting their own points on chemicals, globally and in the EU, innovation, education, and links to other policies like the circular economy.

"I think we are in a great moment to have a breakthrough finally so that chemicals can be truly integrated into other policies."

Delivering green and sustainable chemistry

Mr Warner responded to a question about defining criteria for green chemistry: "Green chemistry has the benefit that it is a single sentence definition, which is expanded to 12 principles and has been around for over 20 years. It addresses all sustainability aspects at the molecular level. When you get to sustainable chemistry, that gets a little more confusing, but there is no ambiguity about green chemistry in my opinion. There are journals, textbooks and universities offering classes in green chemistry, but it needs to be a required part of the curriculum."

He then described a Catch-22 regarding investment. For an investor to be willing to invest in the technology they want new material composition, because it can be patented, but new compositional matter necessarily raises uncertainties concerning toxicity and other potential risks. "We are pushing in one direction and investors are pushing in another, how do we bring it back together?"

On innovation, he noted the caution of investors: "If government is not funding it, investors will not likely fund it. There is an interesting reality that government funding in part defines scientific trends."

Mr Bruyninckx asked who pays for innovation? "It is not going to happen with only public funds. That's why Europe is

taking an initiative on finance to mobilise private capital in support of sustainability objectives, and that includes moving towards a greener chemistry. I think this is rather critical. If we can move the financial investments component of the chemistry sector towards long-term sustainability, then that ends up in the boardroom in a serious way. We will also need to work on education: in business schools, environmental economies is still optional, which is obviously not adapted to the challenges of the 21st century."

Ms Willems thought that companies often feel regulation is a barrier to innovation. This is something she feels can be overcome by fostering both a more risk-based approach and the market uptake of new products. To get innovation, she reiterates the need for the necessary skills to be accessible for entrepreneurs.

Mr Bruyninckx took issue with being labelled a 'consumer', something he thought unhelpful to the debate around chemicals legislation. "I am a citizen, which is more than just a consumer. As a citizen I want to trust that products are safe because of government legislation and public institutions that stand up for the public good, e.g. health and environment, and then as a consumer I will consume safe products. I should not have to make a choice between a safe and unsafe product, I should be making choices between safe products."

Ms Willems agreed that we are citizens, but noted the problems for safe choices and SME competitiveness as the level playing field tilts due to products coming into the EU more cheaply that are less safe.

Regarding how to incentivise green chemistry, **Ms Jensen** noted that chemical industry profits should be looked at in relation to the healthcare costs due to chemical pollution. "The burden of diseases attributable to chemicals is overwhelming. One study estimates 163 billion euros for endocrine-disrupting chemicals alone per year in Europe. More recently, a Nordic report estimates the annual health-related costs on our inaction on PFAS to be between €52-84 billion for all EEA countries."

It would be useful to look at product cycles to see who is getting the most profit, added **Mr Warner.** Is it the retailer, the brand, the chemical companies? "Who stands to make and lose more money when we make chemical substitutions, we don't really look at that closely enough. Connecting those dots should help us identify the correct financial models."

Mr Bruyninckx said that Europe is very well placed to lead in this chemistry of the future, with its large unified market, and it will be European technology, knowledge, governance methods and risk assessment that are ahead of the game.

Early warnings

Mr Warner took a historical perspective. When the industrial revolution created the new field of industrial chemistry, it created two 'tribes' of chemists and they started speaking a different language. "When Rachel Carson wrote Silent Spring and environmentalism started, it wasn't that the makers of stuff rejected it, they just didn't hear it. Now we are in the 3rd century of chemistry and we need to bring the two tribes back together, as the mass of information that REACH generates is in a completely different language to that used by the inventors of things."

Ms Ylä-Mononen noted that the quality of data is a fundamental issue, not just quantity. It is important to look at how scientists report studies, to ensure they are in a form that is easy to use. **Ms Willems** stressed the need for affordable early warnings methods.

Scientists usually provide reliable data, **Mr Bruyninckx** added, and are rarely wrong when it comes to early warnings about potentially negative consequences of using chemicals. Given the elements of irreversibility of effects, when scientists send warnings about the environment and health, they should be acted on promptly.

Ms Ylä-Mononen wondered if "early warning" wasn't the wrong term, when something is already out there. Early warning is probably more appropriate when screening molecules.

Ms Jensen mentioned a recent study showing that we unintentionally eat the equivalent of a credit card a week of microplastics. Early warnings relating to this are vital, and such information needs to get quickly into policy action to reduce exposure. "We need to seriously rethink our approach: what are the essential uses of a chemical, is it necessary?"

Monitoring and smarter communication

Everyone agreed that there was a huge monitoring problem for imports, especially from e-commerce. This was a recurring theme. **Ms Jensen,** using the example of HEAL's joint campaign on toys made of recycled plastic that contain chemicals restricted in the EU like dioxins and flame retardants, said there should be consistency in the marketplace between EU and non-EU products.

Ms Ylä-Mononen said they need to be monitored globally. "For a safe EU environment, we need to ensure things imported are safe. We need to give third countries adequate information and expertise about our regulations, and to enforce those regulations." Regarding online shopping, she said it was important that EU citizen are made more aware of the issues about the safety risks of products coming from outside the EU.

Ms Willems said that if we don't enforce, our SMEs will suffer the most due to competition from third countries using substances that are banned in the EU.

Mr Warner felt that consumers need better information on the product they are buying. The information they get on the many possible ingredients tested in a product is too technical and incomplete, and he called for more focus on testing the products themselves to give consumer the information they want. This would also be more accurate and cover synergies between compounds in that product.

A question from the floor highlighted that synthetic chemicals are found in Arctic regions, far from where they are produced and used. Members of the panel agree that this should be a red flag. Not so much an "early warning", but a "final warning"!

The panel noted the scale of human biomonitoring to look at human exposure to chemicals. However, when it comes to the impacts of chemicals on ecosystems and biodiversity, it was suggested you cannot measure every chemical, you need measures that allow you to aggregate information.

In terms of monitoring, **Mr Warner** noted that citizen science can play an important role in monitoring for early warnings of chemical pollution, through a new generation of smartphone apps that are linked to databases.

The connections between climate change and chemicals were stressed in response to further comments from the floor, in particular, because plastics are largely made using fossil fuel feedstocks.

Moving the EU Chemicals Policy to 2030

Promoting a safe circular economy, effective regulation and global leadership

Panel Discussion

The members of the panel were:

Rolph Payet,
Executive Secretary, Basel, Rotterdam and Stockholm Conventions (UNEP);

Bjorn Hansen,
Executive Director, ECHA (European Chemical Agency);

Bernhard Url,
Executive Director, EFSA (European Food Safety Authority);

Marco Mensink,
Director General, CEFIC (European Chemical Industry Council);

Theresa Kjell,
Senior business and policy advisor, Chemsec.

Bjorn Hansen cited US and European studies from the late 1980s, leading to the pre-REACH legislation, and late 1990s, leading to REACH, that concluded there was not enough information available about chemicals in the market. The review of REACH just concluded the same thing, but now we know what we do not know. There is urgency, and we can get it right this time around."

From a food providers perspective, **Bernhard Url** noted the urgency of obtaining 50% more plant-based calories to feed 10 billion people, the land limitation problem for doing this, and the challenge faced by agriculture in reducing greenhouse gases emissions by about 70% if Paris Agreement targets are to be reached. This will mean more intensive agriculture, but at the same time more sustainable, with implications for the future of chemical policy.

Marco Mensink, coming from the industry perspective, said that as seen in the Global Chemical Outlook, global chemicals production will grow with a factor of two in the next decades. The question is how much of that growth will be taken by European manufacturers? If Europe has the leading legislation in the world, European Industry should be able to have a large share. A big concern however is that even in Europe itself "all the garage doors in our house are open" due to lack of enforcement and even illegal imports, for example, of HFCs. Enforcement needs to be improved.

Circular economy

"We can't really talk about the circular economy without talking about chemicals regulation, because a successful circular economy has to go hand-in-hand with ambitious chemicals regulation," said **Theresa Kjell,** bringing the NGO perspective. "We talk to progressive companies about using recycled materials, but they will not use it if they do not know what is in it; if it contains hazardous substances, then it is not going to work." She backed the idea of a new non-toxic strategy based on the precautionary principle.

Rolph Payet, bringing an international perspective to the panel, felt the EU could do more, especially leadership on chemicals and wastes at the global level, and that this should be reflected in the 2030 chemicals policy. "You can clean up Europe, but if the regions around Europe do not clean up then there is no point, because all the pollution will come back into Europe," he said. "The EU has to continue to take a very important role in our chemicals and wastes conventions, and what is happening elsewhere in the world." On the other hand, he believes that the EU could be an ideal pilot for the circular economy, with over 20 countries with separate borders within a common market - importing and exporting, manufacturing and recycling.

Mr Hansen agrees: "When I look at Europe, at what we do in ECHA, our Member States, our industry, our scientists, and our 50 years of experience in chemicals legislation, we are ahead and that is an advantage that we should definitely use. Albeit being ahead, there is still an urgency, but we have the knowledge and competence to do it now." We are being more scientific than we used to be, he continued, but though the science is getting better we must ensure we make decisions faster.

"There is a perfect logic for Europe going circular and that is, as a region, we don't have all the raw materials we need or cheap shale gas, and we have the highest energy prices in the world," said **Mr Mensink.** He stressed the need for a Single Market for waste, as EU waste legislation is interpreted in 28 different ways and even making shipments within the EU can be difficult. On top of that, countries do not respect the single market. "Individual countries not following EU agency decisions and banning substances on their own is killing the Single Market. If we want the system to work, we need to abide by the agencies, such as EFSA and ECHA." He also countered that though Europe may lead the world in some things, his US colleagues remind him they are getting the investments today and making the money. Furthermore, "we need a policy on the chemical industry, not an additional one on chemicals alone. We need an environment that allows European chemical companies to move forward and innovate to produce the next generation of chemicals in Europe," he said.

"There is not enough communication between chemicals sector and recycling sector, which is important for creating the circular economy," **Ms Kjell** said. She also stressed that it is very important that products made from virgin and recycled material should be equivalent materials, especially in terms of safety. There is a need to have transparency and knowledge about what is in the products. "Most importantly, it is always less costly to avoid having hazardous substances in products to start with, rather than cleaning them up at the end of their life. That is really a key message, and why we have to speed up legislation."

An enabling industry

"The chemistry industry is the industry of industries," said **Mr Hansen.** "So, to have a manufacturing base in Europe we need a chemical industry in Europe." Chemicals are used in numerous downstream sectors.

He cited the strengths of the European chemical sector as skilled people, and the availability of data and knowledge. The more information is out there the better it is for Europe. "The economy works if there is full transparency and information flows facilitating competition, which is also good for the Single Market. We must enforce the law, so that unregulated imports do not undermine this."

Mr Mensink took issue with the proposed "Made in Europe" label to reassure consumers products are safe, instead suggesting it should be "Regulated in Europe." Component chemicals in complex products cross borders many times. It is whether they comply with REACH that is important, and that is the added value and benefit of leading the world in legislation. "We have a representative from an SME on the board, who said if it had not been for REACH they would have had 20% more profit every year for the last 10 years. That's the cost impact and it needs to pay off. Where is the return on investment when providing global markets?" For this European policy needs to have a global focus and awareness.

Industry is already doing a lot, but it could do more, in particular on the issue of plastics, said **Mr Payet.** "Everyone knows PET and how it is efficiently delivered and recycled around world. PET recycling is working because we have it properly labelled/identified – and this was done by industry with no regulation whatsoever. However, we have not done so for other types of plastics? Furthermore, industry does not yet factor on its accounts the true cost of the pollution, and even the cost to health of their products and activities." According to recent reports, huge amounts of waste, including plastics and e-wastes, are sent from the EU to Africa, for instance. Who is taking responsibility for the pollution it is causing in those distant parts of the planet? Furthermore, within the context of the circular economy, improper waste exports also represent a loss of resources, and indeed economic opportunities, for the EU.

"A new chemical is created every two and a half minutes. So during the 28 hours of this conference 672 have been created."
Aminda Leigh, moderator.

Photo: © European Commission

Risk assessment and management

"Industry is running ahead. Because of relentless competition it is developing processes and products, and we lag behind with the methodology to assess the possible risks," **Mr Url** said. He cited nanomaterials as a good example. The question is whether we can co-evolve risk assessment methodologies with industry, "which for EFSA puts us in difficult situation, because, as food is such an emotional issue, participation of industry experts in our methodological work immediately raises the issue of perceived conflicts of interests." He claimed not to be a believer in the one central data hub solution (which generally divided participants), but that it is important to make data inter-operable.

"The new General Food Law has made a great leap forward, in that EFSA will have the legal basis to publish all evidence it uses for risk assessment, a major step towards more transparency." This is also useful for the academic community, who are better at spotting patterns in the data. "However, I do not believe in the equation transparency means trust. Transparency is a prerequisite for trust but it does not create trust by itself."

On transparency, **Ms Kjell** added that creating trust means that information should also be made available to NGOs like hers, which has been a problem in the past.

Mr Hansen agreed that information needs to be more accessible. For example, the move away from animal testing requires a better understanding of chemical toxicity, in order to compare toxicological and animal testing data. We need publications in a format so everyone can use the data in them, from industry, pharmaceutics and other areas, he said "The information is there, we just need to get it linked up."

He also asked: How complicated do we need to make risk assessment? Using the example of microplastics (microbeads) in toothpaste, it is obvious these will get into the environment, so the question instead is how much assessment is needed to justify the concern? "When can we do a quick assessment and still reach the same scientific soundness. How deep do you need to go?"

Following on from the statement by Bernard Url, **Mr Mensink** said that industry has specific science programmes to develop new testing methodologies, which are also used by the agencies. "There is lots of science being done by industry, including large programmes looking for alternative chemicals, driven by the need to stay competitive in the market. Not using that science because some call it a conflict of interest is wrong, not to say, not very smart."

Ms Kjell, from the NGO Chemsec agreed: "We look at substituting substances from the Candidate List with safer alternatives, and where do we find safer alternatives? It is within the same companies very often."

"One important issue is proper and responsible labelling and use of appropriate terminology," said **Mr Payet.** "For example, a manufacturer labels a cosmetic product as 'has not been tested on animals', but it is not explicitly said that some of its constituents may have been tested on animals in the 1970s. Whilst being legally correct, in essence from a consumer perspective not all information has been provided. Industry uses very careful lan-

guage and while it can be deemed 'transparent' it is not always fully reflecting what should be our collective responsibility to consumers.

Regarding how science interacts with policy, **Mr Url** said: "The scientific evidence-based discussion has to be separated from questions like, "do we want to use herbicides in European agriculture"? This societal question encompasses value-based judgements about what herbicides mean for biodiversity, quality of water, food prices, farmers' incomes, and so on. We get parents saying "I do not want to find traces of glyphosate in the urine of my children" and our answer is, "well up to 0.5 mg/kg body weight it's safe". As scientists we cannot answer the broader societal question, we only answer the risk question, but what society asks is a value question." He suggested that the separation between the scientific and the political discussions needs to be made clear and respected.

Mr Hansen noted that this point for glyphosate commonly occurs when ECHA authorises chemicals. "Take microplastics, let's assume they have no risk, it is still a relevant policy question whether they be released in continuous flows and accumulate on European soils, to the point that in 200 years 5% of the topsoil will be plastic." He agrees that it is very often implicitly interpreted that we have answered that type of societal question when we come up with scientific advice.

Mr Mensink added to this point by calling attention to the re-use of sewage and waste water treatment sludges on farmland, which recycles the problem instead of providing solutions.

Sustainability and competitiveness

"Who is checking the containers with all the cosmetics and textiles coming into the EU?" asks **Mr Mensink,** representing the chemicals industry viewpoint. To which his answer was effectively no-one. If we stop using chromium VI to plate shiny lipstick caps in Europe, for example, he assumes his daughter will still be able to buy these products online. When you propose these measures and don't inspect imports there is a cost for European industry, he said. When proposing a REACH restriction one of the key questions should be if we can actually enforce it.

"That's why I have said don't have a non-toxic environment strategy, but instead have an EU chemical industry innovation strategy. Only taking some measures means it all gets imported from China or elsewhere and our factories close down. I don't see the benefit. I just see jobs being lost. I am not saying we should not take measures, but be aware there is a whole load of consequences that we are not looking at." He added that as a first example, stopping the illegal import of HFCs into Europe would be of great benefit to European companies.

Ms Kjell said that if we regulate chemicals through REACH, the most robust legislation of its type in the world, this can have positive global consequences. Several brands that Chemsec have talked to have one production line for global sales. So, EU policy has an impact on products sold abroad. This can be seen with the many recycled products coming from Asia that clearly do not contain substances prohibited in Europe. "Chemical companies are global and mobile, and this is a very important aspect, I think," she concluded.

Mr Payet also suggested that REACH, as a tried and tested regulatory framework, can be useful in further strengthening chemicals and waste management in other parts of the world. He presented two practical proposals regarding REACH and how it can improve chemicals and wastes management globally. "Firstly, a concept of REACH Lite, a much scaled down version of REACH which builds on the UN conventions for use to strengthen countries that do not have any legislation or regulatory framework; a the second proposal is REACH+ that focuses not just on chemicals, but also on secondary materials, recycling, circular economy, where for example mixtures of chemicals from traditional sources and recycled materials can also be regulated. Hence, why an international and transboundary perspective needs to be considered as part of the 2030 EU chemicals policy."

Waste incineration

A question from the floor, from a representative of the Ministry of Social Affairs and Health in Finland, raised the issue of waste incineration, as plastic waste can no longer be exported to China and must be dealt with in Europe. There is a need to double waste incineration in Europe?

Most plastics cannot be recycled an infinite number of times, noted **Mr Hansen**, so that leaves landfill, which is no longer an option, incineration, or, in the long term, chemical recycling into an industrial feedstock, which requires further investment. In the short run, we recycle, i.e. 'housefill', but ultimately the fate can only be incineration or chemical recycling.

Industry is focusing strongly on chemical recycling as an alternative to incineration, stated **Mr Mensink,** though companies may not be going public about this work. "I think the transformation from incineration to chemical recycling is going faster than people seem to think."

Incineration is still needed today, he acknowledged, though EU funding is not going in that direction anymore. The Waste Framework Directive is clear on what is recycling – transforming waste into fuel is not counted as recycling. However, that does not mean that you can't or should not do it, turning waste into fuel is a better solution than simply incinerating or landfilling it.

Mr Payet agreed that waste incineration is certainly part of the solutions available to industry today, but in the long term the development of the circular economy holds more opportunities for economic growth and environment protection. "In addition, when waste can't be sustainably disposed in one country, the Basel Convention provides the necessary mechanisms for it to be moved to another country with the capability to manage that type of waste in an environmentally sound manner."

Bjorn Hansen's final point was that losing staff at ECHA due to proposed financial cuts means losing 10-15 years of experience for each post lost. "I am sure that industry would like to pick them up, but I would like to keep them in Helsinki serving the European citizen through EU chemicals legislation."

Concluding speeches


Photo: © European Commission

Kęstutis Sadauskas

Director, DG Environment, European Commission

We began a few decades ago with very intense policy developments in Europe. That aimed at ensuring that people continue to enjoy the comfort and prosperity that chemicals bring, but also that health and the environment are protected. The EU chemicals policy has evolved into a comprehensive framework, with regulatory and non-regulatory tools.

Today, we can proudly say that we have the most advanced and most protective legislation on chemicals in the world. I can also plausibly argue that Europe is the safest place to live on the planet, considering our intense use of chemicals. We have to recognise this great achievement, and build on it.

Those two days were an occasion to look at what can be done better or differently, and at how the European chemicals policy fulfils the primary tasks of protection and well-being. But also, looking at the new challenges. Compared to 2001, when a Commission White Paper launched the current approach to EU risk assessment and risk management, today we have to take into account a new context. For example, European chemicals policy has to be fully integrated into the broader agenda of sustainability and circular economy. We have to help European industry to retain and even strengthen its leadership in sustainable production and use chemicals so that we can fix the biggest planetary dangers of climate change and the collapse of biodiversity.

That is why we asked for your ideas, about vision and actions, for an EU Chemicals Policy in 2030. We shall all go home much richer in knowledge than when we arrived. These two days also showed that, while being the most diverse society in the world, we can also build consensus for a common vision. This is a very valuable confirmation that Europe is still strong, healthy and beautiful.

Let me summarise the main outcomes for a number of our discussion topics.

Promoting green and sustainable chemistry

Our first discussion focused on green and sustainable chemistry. We were honoured to have among us John Warner, who co-founded the concept of green chemistry with Paul Anastas in the 1990s. Since then, the concept has evolved, and much effort has gone into supporting it. Europe's regulatory market forces are also supporting a shift away from hazardous chemicals of concern, but we need to do more to sustain this transition and to produce safer, better, higher performing and cost-effective alternatives.

Many of you asked for clearer criteria to help define green and sustainable chemistry, and to implement them consistently, and even integrate these criteria into education. The commercial supply of sustainable chemicals needs support to become competitive, so it can meet market demands at an affordable price. Collaboration in the value chain should be backed so that market needs are served by innovative start-ups and current market leaders. Overall, regulatory and non-regulatory measures should support a gradual shift towards chemistry that is safe-by-design, so that sustainable production and use of chemicals becomes a default option.

Improving the regulatory framework for risk assessment and management

A related topic came from thematic session 3, which I had the pleasure to chair: how can we improve our regulatory framework for risk assessment and management, to make it fit for new challenges? How can it keep the pace with the increase in the production of chemicals in Europe and worldwide?

We have already streamlined some processes of hazard and risk assessment, and risk management, but we can still make them simpler. This could make our chemicals policy more efficient, and more predictable, for example, if we reduce the need to provide the same information many times over.

The direction that you ask for is clear. Everyone wants a new chemicals policy which is more transparent and more harmonised, and more coherent across the chemicals legislation and with the other policy objectives. The supreme objective should be a move towards production of chemicals that are safe for human health, the environment, and for future generations. We need to make sure our policy is effective in order to gain stronger trust from citizens. Therefore, you called for harmonising methodologies and processes, and making sure that we monitor the use and exposure to chemicals.

Knowledge building and emerging risks

Finally, a topic which is often overlooked and considered too technical: knowledge building, monitoring and emerging risks. The functioning of Europe's chemical policy and its ability to deal with threats and challenges depends on the availability of robust, relevant and up-to-date data.

The scientific understanding of how hazardous chemicals impact human health and the environment has improved significantly over the last two decades, and again we are the best in the world at this. But we still don't know enough about exposure to hazardous chemicals, their use, and their impacts on human health and the environment.

You said that knowledge is not a means in itself, it needs to be channelled, on time, to policymakers, so that they act swiftly and adequately.

We need to monitor a broader range of substances and effects throughout their life cycle. This knowledge should feed into an EU-wide system for alerting about emerging chemicals risks. This would allow for faster and better-informed policy actions.

You loudly supported the need to invest strongly on knowledge and information for policy. A very concrete idea you raised was to set-up a science-policy Task Force to ensure that scientific research in Europe is aligned with policy needs. This makes a lot of sense.


Photo: © European Commission

Carlo Pettinelli

Director, DG Internal Market, Industry, Entrepreneurship and SMEs

We organised this conference to hear from you and your active participation has made it a big success.

With the end of the mandate of this Commission, we are closing a chapter. What will remain, and I have no doubts about it, is the list of the concrete things that we have done.

We have the evidence for what works well and what warrants further attention based on our evaluations.

You came up with ideas on where to go next. Sometimes very bold, sometimes more pragmatic. My colleagues and I will take note of them.

EU chemicals legislation: implementation and enforcement

You will not be surprised if I told you that chemicals are an integral part of most human activities and production processes. Chemicals contribute to our comfort and wellbeing.

The role of chemicals in different sectors has progressively increased over time. We progressively adapted our legal framework to the new societal needs. We have the provisions in place to deal with hazards and risks of chemicals that are fit for purpose and allow us to achieve our policy objectives.

However, whether this happens in reality depends a lot on the availability of our resources and our capacity to work together to implement and enforce the existing chemicals legislation.

Differences in national administrative organisations, different interpretations of the existing rules, lack of guidance documents or lack of harmonised approach are the other factors that need to be taken into consideration.

We need to think about how to better support the companies as well as public authorities. How to build up our market surveillance capacity and enhance the cooperation between Member State authorities and between the national and European level. This is particularly the case for imports and online sales.

Simplification and streamlining

We know now that, overall, the framework works properly - it delivers and is coherent.

Until the late 1990s, there was an increase in the number of chemicals legislation. However, during the last three decades we have put many efforts into reducing this, and into introducing a better interlinked and a more overarching approach.

The REACH Regulation and the CLP Regulation are the two cornerstones of the second generation of EU chemicals legislation, complemented where needed by sector specific provisions.

What I heard from you during this conference is your call for a constructive dialogue, partnerships and collaboration across value chains and sectors. You called for a holistic, integrated and overarching approach to chemicals that creates and strengthens synergies between policies and between pieces of legislation.

You also called for a chemicals policy that is at the service of shifting towards a more circular economy and a climate neutral economy. A chemicals policy that is based on transparency and that in return ensures that information is available, reliable, easily and widely accessible. I also heard about the need for legislation that is up to date with regard to smart and innovative technologies, be it for communication towards consumers or in hazard and risk assessment processes.

I take note of your call for clear policy signals, and a long-term vision for chemicals and waste. I also note that a predictable and stable environment for businesses is necessary. We need to make legislation more fit for business, remove bureaucratic barriers and encourage new investments. And we all need to implement those rules.

Circular economy

We all agree that the implementation of the Circular Economy Action Plan is one of the success stories and main deliverables of this Commission.

What we are doing here in Europe on plastics and on waste management has triggered positive change in other parts of the world.

With the Plastics Strategy we created a win-win situation. It allows our industry to stay ahead of their game and lead the transition. At the same time, we ensure a high level of protection of the environment.

We can be proud of a job well done.

We need to see how the EU chemicals policy can be at the service of shifting towards a more circular economy. Access to information on the chemical content of articles is important for risk management. So we started the work on ensuring the traceability of hazardous chemicals in waste and recycled material streams.

I heard that you had very intense discussions on the concrete steps to take to shift towards a more circular economy. No doubts, we will need to take into account different interests and needs to help the EU to shift towards a more circular economy. Your commitment to work together and together with us will be key.

Industrial policy and competitiveness

And what about industrial policy? Competitiveness?

Europe is the global leader in many industries, especially in high value added, low carbon products and services. And in new technologies and innovation, such as those allowing for high-quality novel recycled materials.

The EU chemicals industry's high level of technological development, skilled and talented workforce and world-class science base together with the Single Market are our assets to overcome the challenges of globalisation, a strong chemical demand growth in other parts of the world and rapid technological change.

Being a first mover globally on sustainability can confer great competitive advantages to the EU and its businesses. You would like to see frontrunners rewarded and more targeted public funding going into research and development.

I thank you for your active participation and I look forward to discussing these matters further as we progress with our reflections on the future EU chemicals policy.

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