



We create chemistry

The Chemical Strategy for Sustainability: BASF Perspective

Dr. Paul-M. Bever, 30 Nov. 2021

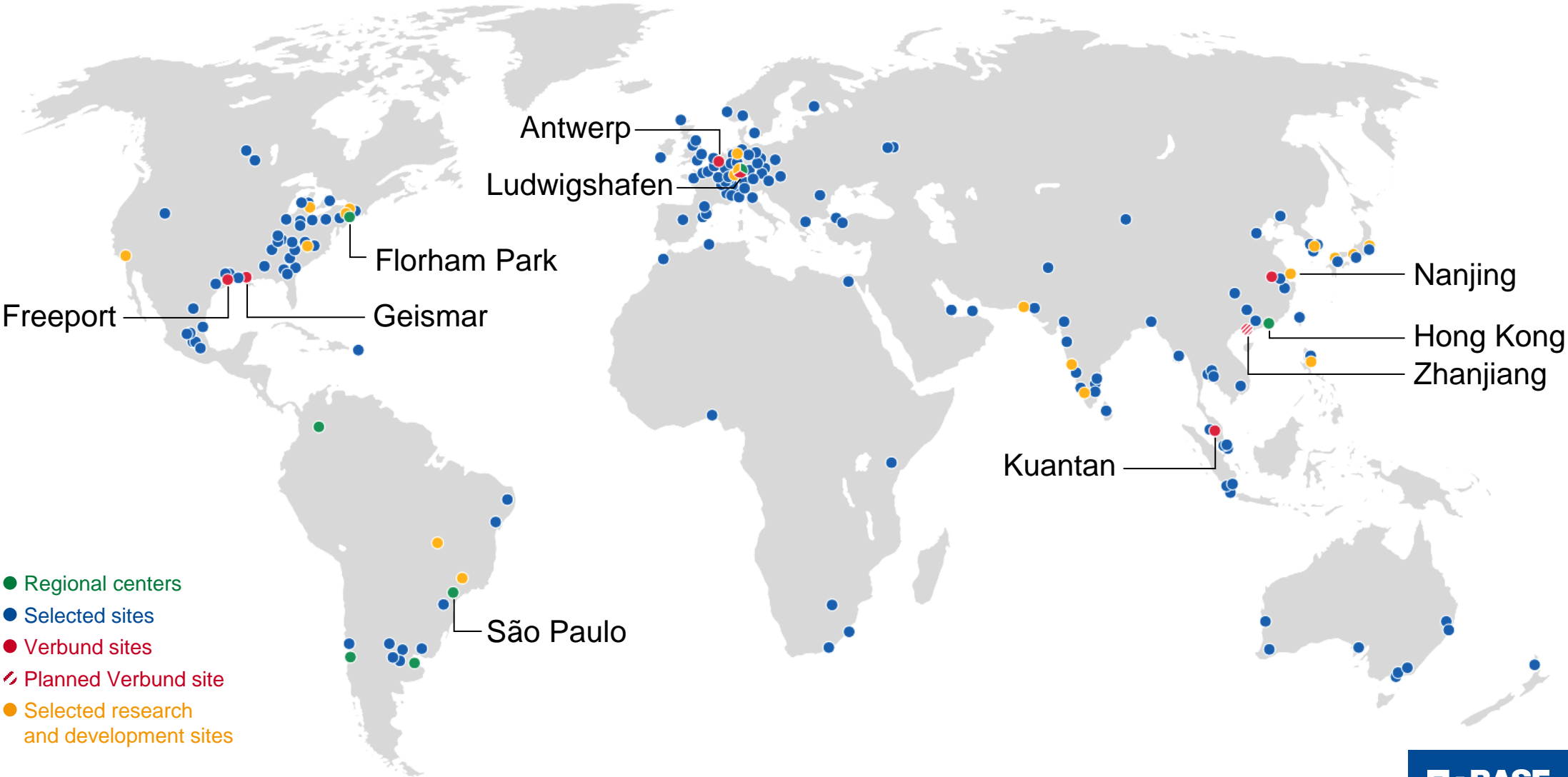
Agenda

- BASF as global player, Verbund-Site Ludwigshafen: sustainability as our driver
- BASF and the EU Green Deal: many challenges at a time
- The Chemical Strategy: opportunities and challenges
- BASF perspectives on the CSS: preferences and contributions

BASF as global player

Verbund-Site Ludwigshafen: sustainability as our driver

BASF worldwide: sites



Verbund site Ludwigshafen

The world's largest integrated chemical complex owned by a single company

Headquarters

Employees BASF SE	34,484*
Site area	10 km ²
Sales products**	~ 8.1 million metric tons p.a.
Road	~ 106 km
Rail	~ 230 km
Logistics	
	~ 1,900 trucks daily
	~ 400 railcars daily
	~ 30 fully electric AGV transports daily
	~ 15 ships daily
Pipeline system	~ 2,850 km
Production facilities	~125 production facilities with around 200 production plants

* as of December 31, 2020

** from in-house production

Our corporate purpose:
We create chemistry
for a sustainable future



BASF and the EU Green Deal: many challenges at a time

Green Deal is Europe's Growth Strategy and Vision



First climate neutral continent by 2050



Lead the way to a circular economy



Move to a zero-pollution environment



Accelerate to a sustainable food system

A vision and policy framework beyond climate neutrality!

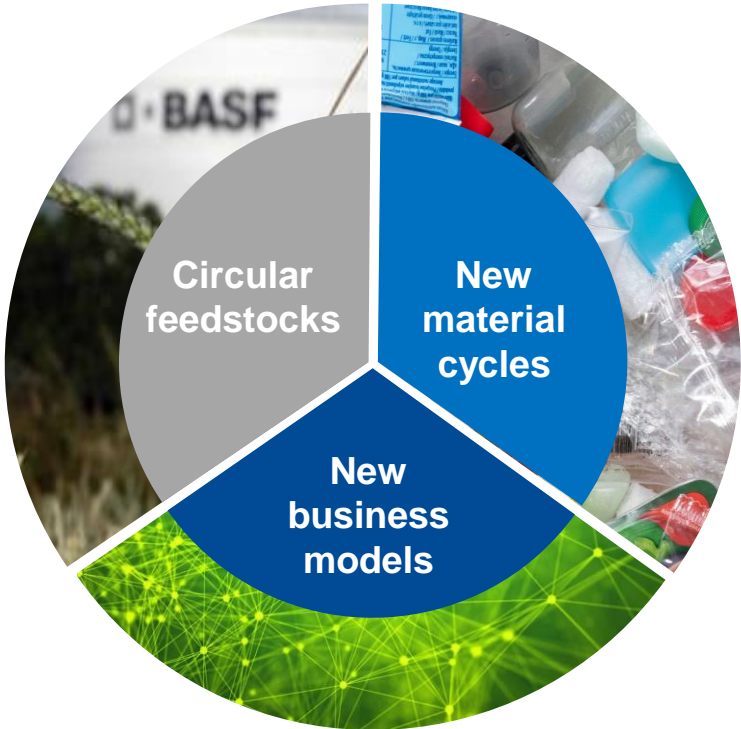
BASF contributions to the EU Green Deal (examples)

Carbon management



- 25 % less CO₂ emitted in 2030 than in 2018
- **Climate neutral by 2050**

Circular Economy Roadmap



- 250 kt recycled and **waste-based raw materials** by 2025
- **€17 bn*** circular sales by 2030

Sustainable products

8 DECENT WORK AND ECONOMIC GROWTH	 Battery materials
15 LIFE ON LAND	
13 CLIMATE ACTION	 Ecovio®
11 SUSTAINABLE CITIES AND COMMUNITIES	
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 Paints and coatings
6 CLEAN WATER AND SANITATION	
3 GOOD HEALTH AND WELL-BEING	
2 ZERO HUNGER	

- **€22 bn sales with Accelerator products** in 2025*

* *partial overlap*

BASF views on the EU Green Deal (available on our website)

- BASF supports the objective of the Green Deal and the ambition to climate neutrality by 2050, in combination with a strong industrial policy
- Innovations and initiatives from BASF have the potential to help make the EU Green Deal come true
- A key prerequisite to realize the industrial transformation of the chemical sector is an enabling policy framework

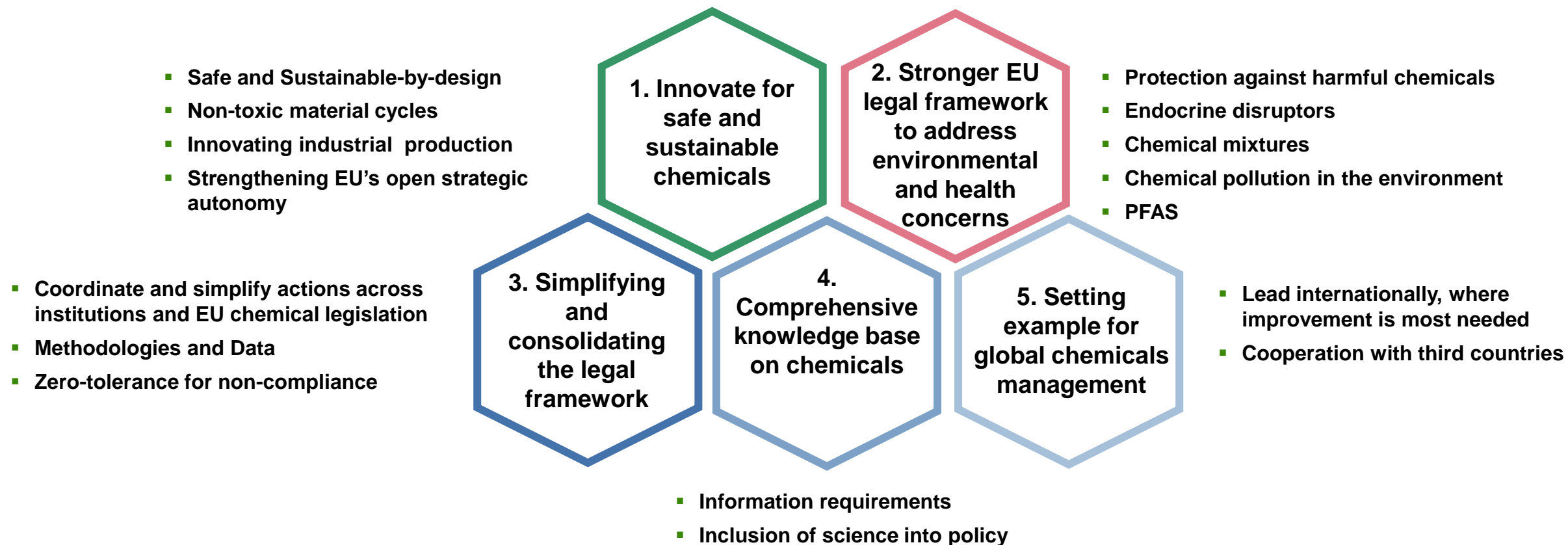


The Chemical Strategy: opportunities and challenges

CSS Objectives:

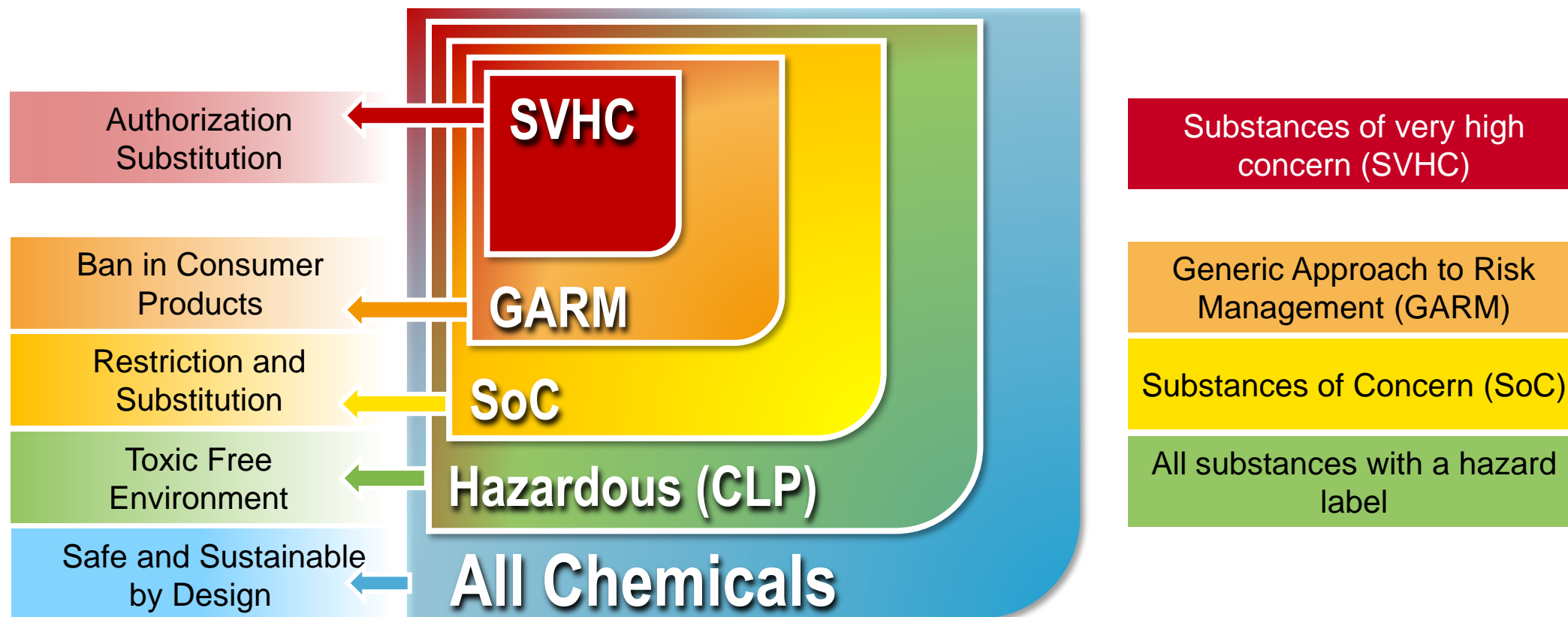
1. Enhancing protection of human health and the environment
2. Boost innovation to enable transition to safe and sustainable chemicals

CSS's five building blocks and 16 measures



More than 80 changes to chemicals legislations are set out by the Chemicals Strategy for Sustainability to be implemented between 2021 and 2024.

CSS – Universe of chemicals in scope



Immediate phase-out of hazardous chemicals in non-essential uses
Opportunities may come later from the development of safe and sustainable products

Objective 1: Establishing a toxic-free environment



Implement a Generic Approach to Risk Management for consumer products

- Hazard-based approach, no exposure consideration



Apply same level of protection to professional users as granted to consumers

- Disregard measures to manage occupational safety



Restrict SVHCs in industrial production, set stricter OELs

- Competitive disadvantage for EU production



Introduce Essential Use concept

- Regulators decide on essential uses



Extend criteria for substances of very high concern; use of grouping

- More substances to be restricted / banned



Prevent export of banned chemicals

- Effects beyond European business

OEL: Occupational Exposure Limit

If implemented as suggested, BASF's EU business will be significantly impacted

What is at stake?

CSS impact on BASF



Sales loss

New bans and restrictions based on broadened hazard definition and extension of protection to consumers and industrial production



Implementation costs

For additional information requirements, including polymer registration, Endocrine Disruptors, etc.

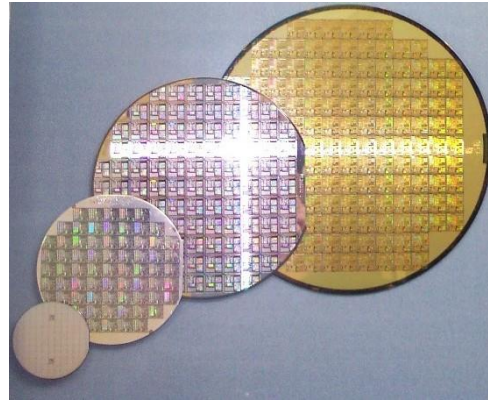
Cefic Impact Assessment expected 2 Dec. 2021

Chemicals Strategy for Sustainability (CSS)

Product classes „at risk“



UV Filter
for light
protection



Mikrochip
production –
process
chemicals



BASF OASE®
for energy efficient
gas treatment
processes



Epoxy
hardener for
rotor blades
of windmills

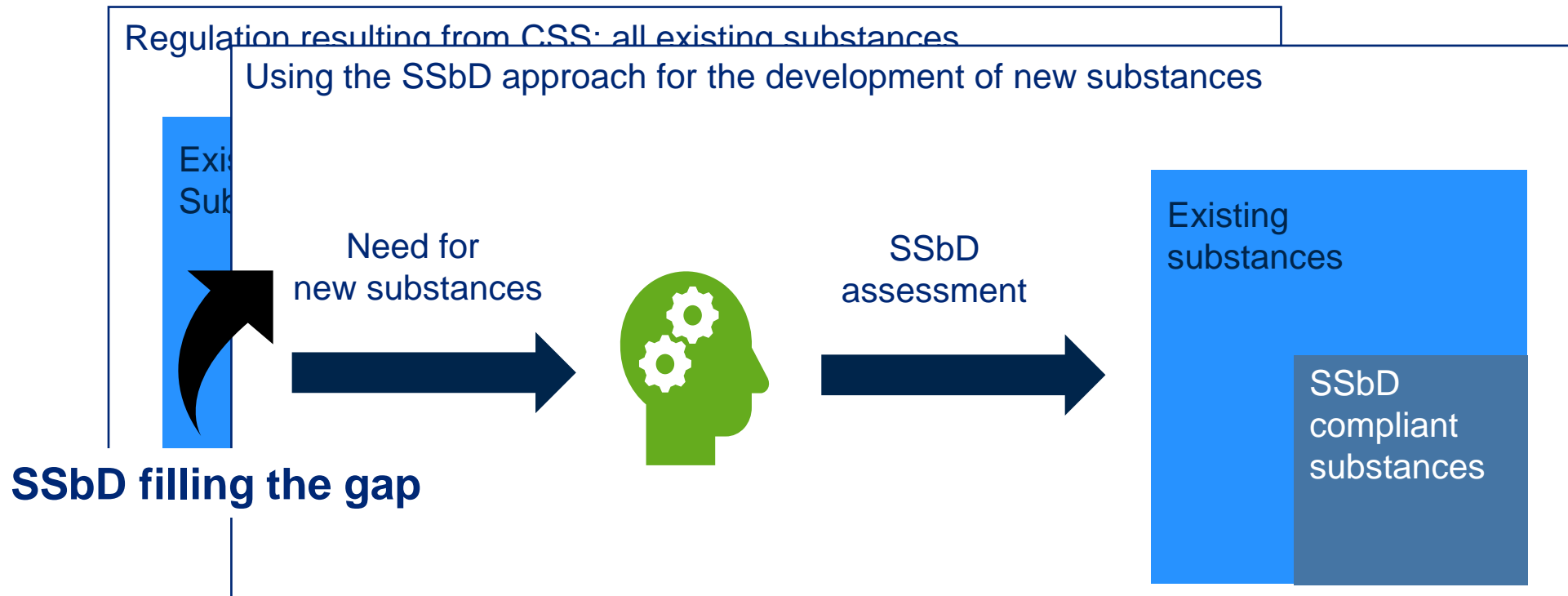


Biozides
for durable
water based
paints



Break fluids

Objective 2: Safe and sustainable chemicals as EU market norm and global standard



- Develop safe and sustainable-by-design (SSbD) chemicals
- Achieve non-toxic material cycles
 - Boost uptake of secondary raw materials
 - Exclude SoCs in products which might hamper recycling
- Access to funding available, e.g., through Horizon Europe and LIFE program

Conclusions:

BASF perspectives on the CSS: preferences and contributions

It is clear that **CSS** will come

We stand ready to work together



Strengthen R&D activities to develop SSbD products



Invest in sustainable production processes

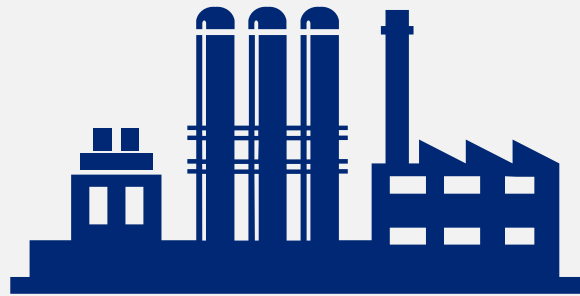


Develop alternative toxicity testing concepts

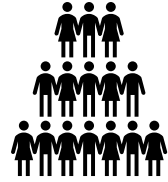


Consider CSS impact in future investment decisions

BASF's response to CSS



**BASF and its customers
are severely impacted by
the Chemicals Strategy**



Dedicated BASF team

- Development of positions and alternative concepts e.g., Essential Use



Industry-wide Impact Assessment

- Cefic evaluates CSS impact for industry with ~120 companies participating



High-Level Round Table

- 32 participants from industry, NGOs, academia; lead: DG ENV
BASF CEO M. Brudermüller represents Cefic



BASF's EU27 net-work

- Advocacy on country-level

BASF Position (available on our website)

- BASF fully supports the objectives of the Green Deal and the intention of the CSS to protect human health and the environment.
- A stable regulatory environment is needed: the existing law should be fully utilized and carefully adjusted. Rather than creating new rules, existing ones should be properly enforced first for example on imported products to ensure the protection of human health and the environment and increase consumer protection in the EU.
- Risk evaluation: market restrictions should remain risk-based.
- Occupational safety: maintain the clear distinction between industrial, professional and consumer uses and differentiated risk management options.
- Innovation roadmap needed: adequate transition time for the implementation in the respective value chains, financial support and an innovation agenda.



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