

Reducing water pollution by emerging contaminants from consumer products

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Content

▶ Aim

Explore available socio-legal solutions to reduce pollution from Contaminants of Emerging Concern (CECs) resulting from consumer products in Scotland

▶ Presentation

- ▶ Definition of CECs and scope of the project
- ▶ Why is action needed as precaution
- ▶ What can be envisaged



Contaminants of Emerging Concern

US EPA definition:

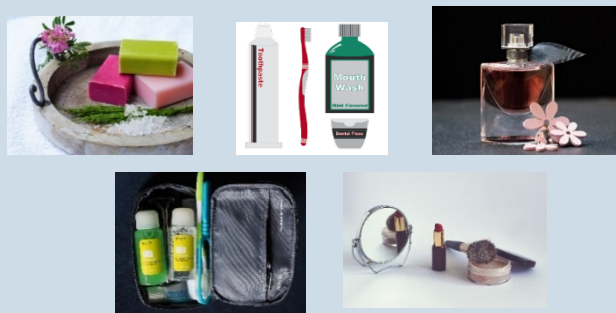
“[contaminants that are] increasingly being detected at low levels in surface water, and there is concern that these compounds may have an impact on aquatic life”

What is « emerging »?

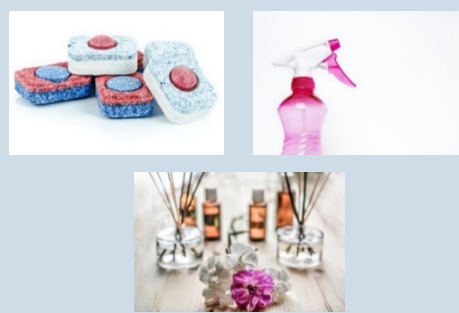
- Presence and effects newly observed in the Environment
- Impact on the Environment and human health

CECs - Scope of research

Personal Care Products (PCP)



Household Products (HHP)



Scottish market

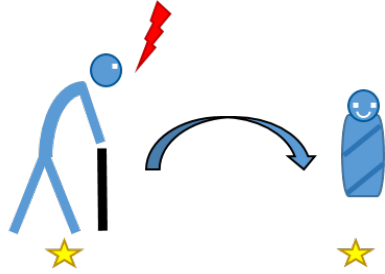


CECs in PCHP:

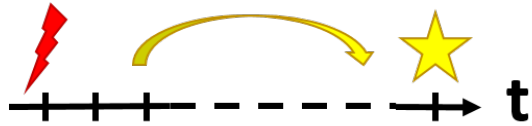
- ▶ by effects: endocrine disruption
- ▶ by common properties: size (micropollutants, nanoparticles)
- ▶ by usage: preservatives, antibacterial agents, surfactants

Uncertainties associated to CECs

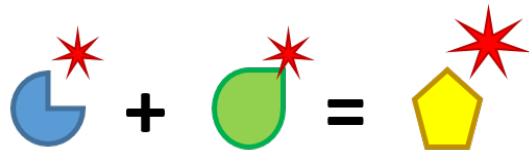
Transgenerational effects



Latency of effects



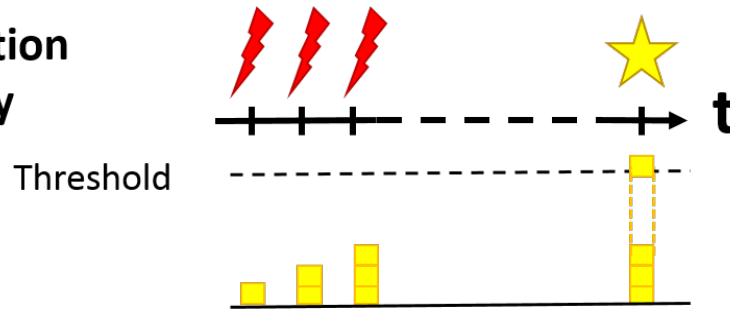
Combination effects



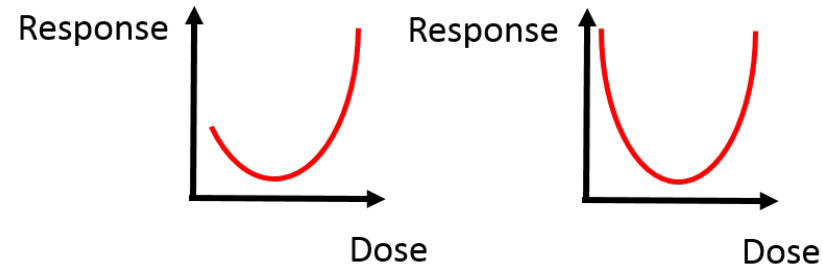
Legend

- Exposure
- Effects
- Harmful chemical

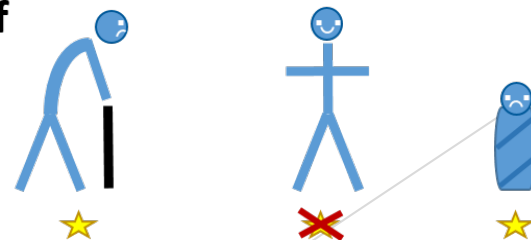
Pollution legacy



Unusual Dose-Response relationships



Variability of effects

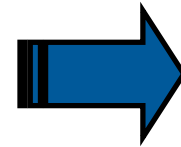




How to mitigate pollution at source?

Potential **irreversibility** of exposure

Difficult identification of **causality relationships**



**ACTIONS ARE NEEDED AS
PRECAUTION**

High **unpredictability** of impacts

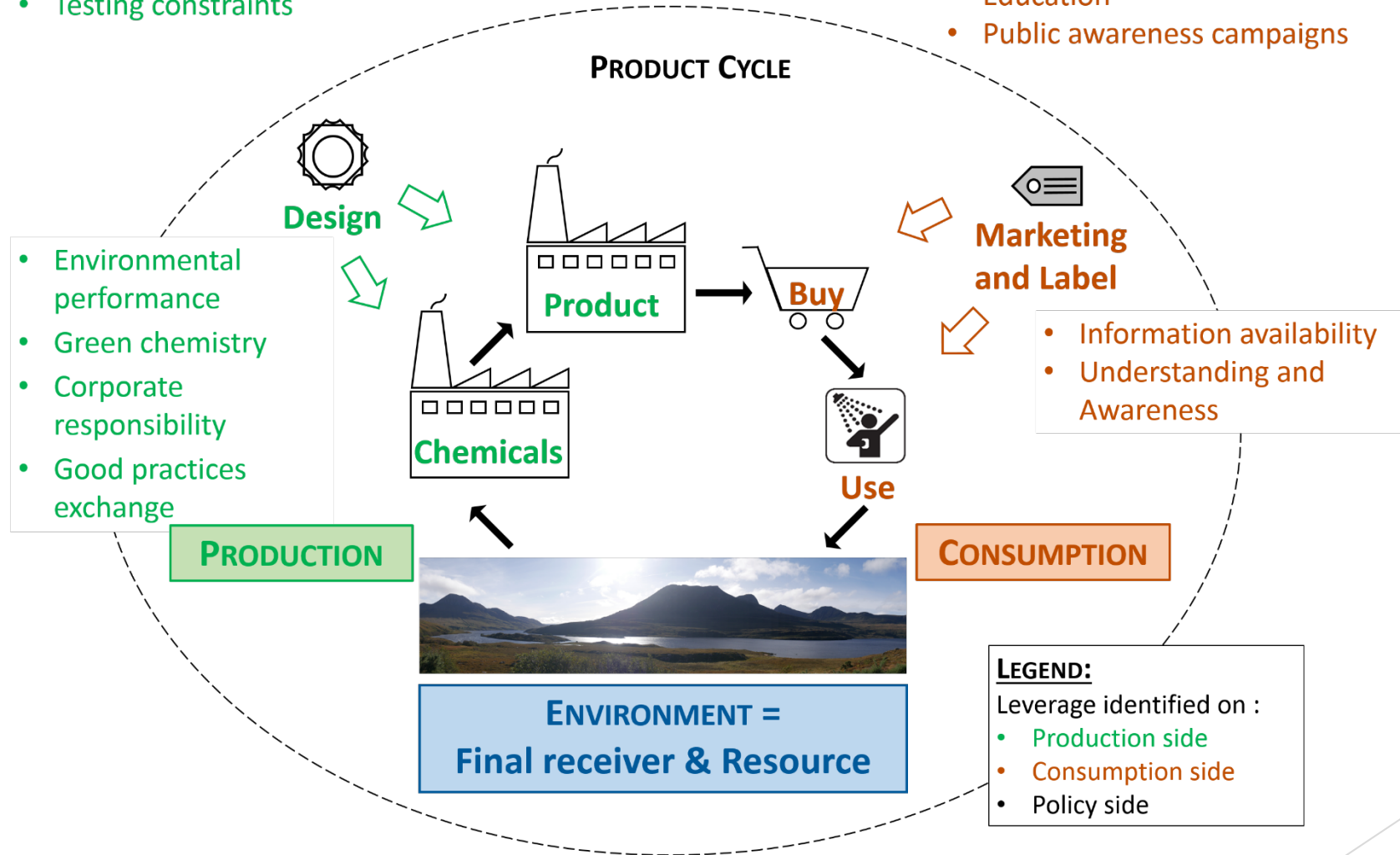
- ▶ Exploration of substitutes and alternatives
- ▶ Monitoring of suspicious chemicals
- ▶ Tracking of product content
- ▶ Public participation



- Environmental monitoring
- Environmental assessment
- Classification and thresholds
- Information transmission
- Testing constraints


**POLICY & REGULATION
 LEVERAGE**

- Protection, storage and packaging restrictions
- Eco-certification
- Labelling constraints
- Education
- Public awareness campaigns





Conclusions

- ▶ Uncertainties are inevitable and should not be ignored to postpone concern
- ▶ Multiple stakeholders engagement
 - ▶ Scientists
 - ▶ Producers
 - ▶ Consumers
 - ▶ Policy-makers
- ▶ Hope: Increasing willingness for change
- ▶ Project future: social investigation to explore feasibility of solutions envisaged



References

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