AALBORG UNIVERSITY

REACH and innovation

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Chemicals regulation and constructive measures

The major trend in chemicals regulation:

From 'catching the worst'

To 'preventing the broad exposure'

Løkke, S. (2006): "The Precautionary Principle and Chemicals Regulation: Past Achievements and Future Possibilities", *ESPR - Environ Sci & Pollut Res*, vol. 13, no. 5, pp. 342-349.

REACH

Registration
Evaluation
Authorisation
- of **CH**emicals

Three Phases

I: > 1000 tonnes + CMR > 1 + PBT > 100
II: >100 tonnes
III: > 1 tonnes

REACH

Registration
Evaluation
Authorisation
- of Chemicals

When Production / Import exceeds
1 tonnes pr year:
• technical dossier with increasing detail with increasing volume
10 tonnes pr year:
• CSR – Chemical Safety Report:
  - Uses, incl. consumers & end of life
  - exposure scenarios
• Proposals for tests

REACH

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The Agency will perform
• spot check (> 5%) of dossiers
• evaluation of test proposals before initiation

•Member states and agency evaluate results (no further; more data; further regulation)

REACH

Registration
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CMR, a PBT or a vPvB
or equivalent serious and irreversible effect (e.g. EDC)

Based on Member States dossiers, the Commission can
•decide on risk management,
•ban certain uses, or
•ban substances altogether.

REACH

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Plambeck 2006:
"DIALOG - et centralt parameter for, at få REACH til at lykkes" (Director of the Danish Colour and Lacquer industry)

Innovation

Innovation (Schumpeter):
- new products,
- processes,
- markets,
- supply-chains and
- forms of organisation.

Innovation (Freeman & Soete):
- Rate
- Direction

Innovation & cleaner techno-logy design (Radicality of innovation):
- Production process – same product
- Substitution of part of product
- Product design
- New type of product
- Social structure
- Structure of Society

Innovation Example

E.g. brominated flame retardants:

- The brominated flame retardant can be replaced by another flame retardant without changing the base-polymer.
- The plastic material, i.e. the base polymer with flame retardants and other additives, can be replaced by another plastic material.
- The product can be replaced by a different product, or the function can be fulfilled by the use of a totally different solution.

REACH & Innovation

Two (plus one) major mechanisms:

- Downstream producers may chose alternative substances if SDS is encumbered with e.g. CMR or PBT
- Upstream producer may chose to redraw substance if safer alternatives exist
- Candidate lists for authorisation may come to work as the Danish List of Unwanted Substances

Up and downstream information will give impetus to innovation:

- close contacts with customers;
- accessing external sources of knowledge;
- having effective internal communication; and
- being able to recruit educated people who are linked into wider knowledge networks

(Freeman and Soete 1997, Berkhaut 2003)

Discussion issue:

Duty to substitute?

Will apply at authorisation level

Major points

Static assessments of impacts underestimates ability to innovate by stressing the rate of innovations over the direction of innovations.

REACH will enforce information requirements in the product-chain; whereby key parameters such as CMR, PBT & vPvB will give direction of innovation, as will the candidate list.

REACH will probably tend to enforce focus on lower level innovation; more radical innovations at function and system level will require creative and broad discussions; LCA's with broadly defined functional units constitutes a possible path