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REVIEW

EU traceability of substances in articles:
supply chain communication challenges and the
perspective of full material declaration (FMD)

Julian Schenten, Martin Führ, Leonie Lennartz

Substitution requires all possible support

*Antonia Reihlen, Heidrun Fammler, Arne Jamtrot, Martyn Futter,
Jana Simanovska*

EU Emmission into the environment and confidentiality-
Comment on General Court, case T-545/11 of 21 Novem-
ber 2018

Ludwig Krämer

EU Dieselgate: unveiling the weirdness of the EU's attitude
to compliance on environmental matters

Delphine Misonne

Listen to the people: Friends of the Earth challenge 'Brexit'
public participation

William Rundle

Transparency for sustainable development
Impulse for learning processes in the value chain and in
consumer behaviour

Leonie Lennartz

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Editorial

The present issue of *elni* Review starts with two articles from the field of chemicals law.

Julian Schenten, Martin Führ und Leonie Lennartz analyse the challenges in the declaration of substances in articles in the supply chain and develop proposals on successful complete declaration. In their article “Substitution requires all possible support“ Antonia Reihlen, Heidrun Fammler, Arne Jamtrot, Martyn Futter and Jana Simanovska discuss the background and comment on the discussions of a jointly organised workshop of three EU projects which are dealing with the aim to reduce risks from hazardous chemicals.

In her contribution “EU Dieselgate: unveiling the weirdness of the EU’s attitude to compliance on environmental matters” Delphine Misonne asks whether the current inspection landscape, as applicable in the European Union and as far as environmental matters (and emissions into the environment in particular) are concerned, could have taken hold of what is now called ‘dieselgate’.

Next Ludwig Krämer comments on case T- 545/11 of November 2018 where the General General ruled that an EU substance approval dossier (for glyphosate) contains no information related to environmental emissions.

The contribution discusses once more the question, of what constitutes an emission to the environment and whether access to this information may be refused to protect confidential commercial and industrial information, unless there is an overriding public interest in disclosure.

William Rundle comments on the complaint of Friends of Earth against the United Kingdom for its failure to comply with the Aarhus Convention when legislating its withdrawal from the EU.

Finally Leonie Lennartz reports on the closing event of the project "Consumer behaviour and innovations for sustainable chemistry (KInChem)" at the Protestant Academy Loccum in September 2018.

We hope you enjoy reading the journal.

The editors welcome submissions of contributions addressing current national and international environmental laws issues in particular on the subject of strategic environmental impact assessment (SEA) for *elni* Review 2019/01 by April 2019.

Claudia Schreider / Gerhard Roller
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Authors of this issue

Heidrun Fammler

President of the Baltic Environmental Forum Group; heidrun.fammler@bef-de.org

Martin Führ

Professor of public law, legal theory and comparative law, Society for Institutional Analysis (sofia), Darmstadt University of Applied Sciences, Germany, www.sofia-research.com; fuehr@sofia-darmstadt.de.

Martyn Futter

Associate professor, Swedish University of Agricultural Sciences; martyn.futter@slu.se

Arne Jamtrot

Head of Chemicals Centre, City of Stockholm Environment and Health Administration arne.jamtrot@stockholm.se

Ludwig Krämer

Derecho y Medio Ambiente S L, Madrid, Spain; LKramer@clientearth.org.

Leonie Lennartz

Research Assistant at the Society for institutional

Analysis (sofia), University of Applied Sciences in Darmstadt, Germany; leonie.lennartz@h-da.de

Delphine Misonne

Professor at Université Saint-Louis Bruxelles, FNRS Research Associate; delphine.misonne@usaintlouis.be.

Antonia Reihlen

Environmental and chemicals policy consultant, Hamburg, Germany reihlen@oekopol.de

William Rundle

Head of Legal for Friends of the Earth, Oxford, Great Britain; will.rundle@foe.co.uk

Jana Simanovska

Chair of the Board, Ecodesign Competence Centre, Latvia

Julian Schenten

Senior researcher at the Society for Institutional Analysis (sofia), University of Applied Sciences in Darmstadt, Germany; schenten@sofia-darmstadt.de

Substitution requires all possible support

Antonia Reihlen, Heidrun Fammler, Arne Jamtrot, Martyn Futter, Jana Simanovska

1 Introduction

Chemicals are an essential part of industrial production and an important basis for any (material) innovation and technological development. However, some chemicals may have negative effects on human health and/or the environment and have therefore been identified as hazardous substances. Thus, it is a core task to identify the use of which hazardous substances should and can be ended, because suitable and less hazardous alternatives are available. Here, substitution is understood as “the replacement or reduction of hazardous substances in products and processes by less hazardous or non-hazardous substances, or by achieving an equivalent technical functionality via technological or organisational measures”¹. In its Art. 57, the EU chemicals regulation REACH² lists specific hazardous properties that are of particular concern for human health and/or the environment. Substances which have been demonstrated by Member State authorities or by the European Chemicals Agency (ECHA) to fulfil these criteria are identified as substances of very high concern (SVHCs). These substances are included on the list of candidates for authorisation under REACH, the ultimate aim of which is their eventual phase-out where technically and economically feasible. Although the awareness of chemical risks has increased in general and authorities have intensified their support to companies, the rate of substitution of hazardous substances is still criticised as too slow. In its review of the operation of REACH 2017³ the European Commission (EC) describes a need to promote substitution, in particular in small and medium sized enterprises (SMEs) and specifies in its Action 5 that related activities may include “promotion of capacity building and collaborative networks and promoting R&D investment (EU, Member State resources) in sustainable chemicals and technology innovations”.

In October 2018 an international seminar was jointly organised by three EU projects⁴ dealing with the reduction of risks from hazardous chemicals: “LIFE Fit for REACH” provides specific support on substitution to Baltic companies; the “NonHazCity” InterReg project identifies emission sources of hazardous substances, builds awareness and capacity in chemicals in cities and leads to emission reductions from small scale sources. The third project “LIFE AskREACH” aims at developing a smartphone app to improve communication of information on SVHCs in articles under REACH to consumers and improving related supply chain communication and awareness. At the seminar, opportunities to support substitution and overcome current barriers were discussed by experts from the EC, ECHA, Member States and different organisations, including academia, NGOs and from the industry. Here, we describe the background of the discussions and the conclusions from the activities in the three projects, including the aforementioned joint seminar. We also contribute to the discussions on options to foster substitution in general.

2 Legal opportunities and limitations of legislation to foster substitution

2.1 Market access and uses of hazardous substances

EU chemicals legislation aims to ensure the absence of risks from chemicals by regulating which substances and mixtures may be placed on the market via approval and authorisation procedures (e.g. for biocides, plant protection products, pharmaceuticals). Here, authorities check the data and risk assessments made by those manufacturing or importing the chemicals and decide on the acceptability of potential risks. While there is also criticism regarding the level of safety these procedures provide⁵, they are rarely discussed in terms of their positive or negative impact on substitution.

1 Lohse et al.: “Never change a running process?” in *Greener Management International* 2003(41):56-76(21) March 2003.
2 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
3 COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL AND THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE Commission General Report on the operation of REACH and review of certain elements Conclusions and Actions (SWD(2018) 58 final).

4 LIFE Fit for REACH (<http://fitreach.eu/article/welcome-life-fit-reach>), NonHazCity (<http://nonhazcity.eu/de/>) and LIFE AskREACH (<https://www.askreach.eu/>).

5 See e.g. Pesticide Action Network: “Industry writing its own rules” on the methods of pesticides risk assessment.

Other procedures, like REACH registration or the notification of information on substances in cosmetic products do not regularly involve any checks by authorities and only very seldom lead to a chemical being denied market access. Imposing restrictions on the manufacture and use of hazardous chemicals is the most common approach to avoiding unacceptable risks from chemicals. As non-compliant products are illegal, restrictions are a strong driver for substitution and the speed of developing restrictions hence directly affects the rate of substitutions. The REACH restriction process⁶ is criticised for being inconsistent and insufficiently comprehensive; for being too strict and cumbersome as risks need to be demonstrated as a pre-condition for a restriction; as well as for being too slow, which is reflected by the low number of restricted substances and uses. Consequently, the EC's plans to increase the efficiency of the REACH restriction process only address one of the mentioned deficits; consistency and comprehensiveness remain a challenge. The REACH authorisation process is unique in EU chemicals legislation, as it bans the use of those hazardous substances (SVHCs) included in the regulation's Annex XIV, unless an exemption exists or authorisation is granted for a particular use. It should and does result in the phase out of SVHCs as stated by the EC in its REACH-review. This can be deduced, among others, from the lack of authorisation applications for many SVHCs requiring authorisation. However, imported articles are not covered by this procedure and the current, lenient practice of granting authorisations for uses where alternatives are available weakens the potential push for substitution. Nevertheless, these shortcomings were recognised by several stakeholders at the international seminar.

2.2 Reduction of hazardous substance emissions and exposures

Some occupational and environmental legislation includes requirements to substitute hazardous substances, or to reduce their emissions which may also be implemented via substitution. Examples of such provisions are:

- Art. 4 of the Carcinogens and Mutagens Directive⁷ requires employers to reduce, in particular by substitution, and where technically feasible, the use of carcinogenic and/or mutagenic substances in the workplace. General OSH legislation requires employers to

assess risks and ensure safety in the workplace, including from chemical agents, and that none of the existing exposure limit values are exceeded.

- Art. 58 of the Industrial Emissions Directive⁸ which states that volatile organic compounds (VOC) that are classified as carcinogenic or reprotoxic should be substituted as often and quickly as possible. In addition, emission limit values should be defined in the context of installation permits.
- Annex X of the Water Framework Directive⁹ lists substances, the emissions of which should be phased out. It defines environmental quality standards for substances but does not prescribe any specific measures to initiate a phase-out.

While information on the implementation of substitution stipulated by OSH legislation is scarce, related studies¹⁰ indicate that only one out of four companies carries out risks assessments in the workplace. As these normally initiate substitution, the study findings suggest that also the replacement of carcinogens and mutagens is seldom implemented. It is not described in recent literature how the IED's substitution requirements and the environmental quality standards affect companies' motivation to and actual replacement of hazardous substances.

2.3 Data generation and communication on hazardous substances

Chemicals legislation requires manufacturers, importers and partly also formulators to generate information on the properties of substances (and mixtures). Under certain conditions they must also assess their risks, which implies an identification of substance uses, emissions and exposures. While respective provisions have existed for some time for e.g. active substances and specific chemical products, these obligations are fairly new for industrial chemicals. The improved information base on substances that has evolved from the implementation of the REACH registration is a considerable step forward, not only for understanding the impacts of chemicals but also

6 Which is representative also of other restriction procedures in product legislation, such as for toys or electronic equipment.

7 DIRECTIVE 2004/37/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (Sixth individual Directive within the meaning of Article 16(1) of Council Directive 89/391/EEC).

8 DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

9 DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2000 establishing a framework for Community action in the field of water policy.

10 Lenhardt, U. and Beck, D.: "Prevalence and quality of workplace risk assessments – Findings from a representative company survey in Germany" in Safety Science Volume 86, July 2016, Pages 48-56. Also the implementation report on the OSH directives of 2015 indicates that enterprises find substitution "problematic" EU Commission, DG Employment: "Evaluation of the Practical Implementation of the EU Occupational Safety and Health (OSH) Directives in EU Member States", Brussels, 2015

regarding the possibility to identify less hazardous alternatives and thereby prevent regrettable substitution; i.e. the replacement of a hazardous substance with a substance with similar but as yet unknown hazards. However, the information quality of registration dossiers is broadly criticised,¹¹ with ongoing discussions on measures to improve them.

2.4 Enforcement

Enforcement is necessary to control the implementation of legislation and ensure credibility of the political intention of the legislation. Differences in enforcement intensities across the EU may endanger the “level playing field” of the EU common market. Hence, coordinated and harmonised enforcement is crucial also to ensure that the legislative pushes for substitution are supported by proper implementation of the provisions. The implementation of REACH has supported the further development of an EU enforcement infrastructure for chemicals. Respective procedures and (institutionalised) networks facilitate communication and cooperation between inspections in different Member States. They have also improved information and experience exchange as well as the development of common approaches and enforcement methods. This is a good basis for the further harmonisation and intensification of enforcement. Inspectors may also play an important role in raising awareness as they are in direct contact with companies and hence can inform them about legal provisions, the opportunities and benefits of avoiding the use of hazardous substances as well as giving (general) advice on substitution and related support infrastructure. It is a common trend that resources for enforcement are decreasing across all Member States. Furthermore, the large number of chemicals and products subject to enforcement prevent “complete control”; on the contrary, only a very small sample of cases are required to be inspected. While changes in enforcement methods, such as switching from a “product-by-product” to a “system-check” approach may create efficiency gains and hence lead to greater inspection coverage, enforcement can never be complete.

2.5 Policy integration and regulatory approaches

Initially, REACH was intended to replace chemicals-related provisions in other legal areas, thereby providing one single integrated approach to chemicals control. However, it appears that:

- risk assessment under REACH is too generic and not sufficiently comprehensive for all situations and subjects of protection. Therefore

respective provisions in labour, consumer, installation and environmental legislation will remain in place;

- there are assessment gaps under REACH, among others due to the tonnage threshold triggering chemical safety assessment or the concentration limits for substances in mixtures;
- the types of substances addressed in different legislation are inconsistent, and sometimes even contradictory (i.e. where carcinogenic, mutagenic and reprotoxic substances (CMRs) are prohibited in consumer mixtures but allowed for use in cosmetics).

Legislation is organised in silos with chemicals-, consumers-, environment- and labour- as well as installation-related legislation being isolated and hardly interrelated. While there are a few references between different legislation, e.g. that a priority substance listed in the Water Framework Directive Annex X should be considered in the reporting obligations of the Industrial Emissions Directive, in most cases obligations are not connected, e.g. avoiding the use of (the same) substances, nor do links exist that increase the benefits or reward compliance and pro-active approaches towards chemicals control.

3 How market instruments could support substitution

Here, market instruments fostering substitution are understood as those mechanisms and tools where the use or avoidance of hazardous substances impacts product costs or benefits, i.e. either affect the costs of production, opportunities to maintain/access a market or opportunities to increase profits. Market tools create a voluntary incentive for market actors. In contrast, bans and use restrictions (legal instruments) force actors to either change their product or cease production and remove it from the market.

3.1 Pre-conditions for impacting the markets

The effectiveness of market tools in guiding relevant actors towards substituting hazardous substances depends on many factors, among others:

- the type of product, its user (i.e. consumers, professional or industrial users) and its purpose,
- the complexity of the production process and supply chain, including the location and types of supply chain actors involved, as this usually impacts the information availability on the chemical composition,
- the functionality of the hazardous substances addressed and the availability of suitable alternatives,

¹¹ Among others, the EC lists the information quality in registration dossiers as highest priority for action and the ECHA lists several deficits of registration dossiers in its annual evaluation reports.

- the length of the product's innovation cycles and whether or not the product's competitiveness depends on the substance that should be substituted.

Overall, substitution will most likely be triggered by market tools when the benefits of substitution evidently exceed the related efforts and costs. However, the existing (industrial) manufacturing infrastructure may limit the possibility of substitution, e.g., if changes in machinery and equipment are required for the alternative solution. Finally, there are a number of uncertainties connected to the change of production processes and product design, including:

- whether or not the (technical) changes work in practice and how long the testing and upscaling phase will take,
- if the intended level of product quality can be achieved,
- if the market will accept the new product as well as the actual costs of substitution (e.g., research and development costs, new equipment, search for suppliers, etc.),
- and the actual gains.

The higher the uncertainty regarding such factors, the more likely it is that companies will not take the risk, instead implementing strategies other than substitution. It is not possible to consider the concrete situation of the various market actors and their products in designing market tools. Therefore, market tools frequently consist of a general framework and principles that are specified for individual products and/or substances. Three potentially effective types of market tools for supporting substitution were discussed at the international seminar and are presented here.

3.2 *Examples of market tools that could support substitution*

3.2.1 *Ecolabels improve the visibility of "green" products*

Ecolabels aim to guide purchasing behaviour by highlighting products (mixtures and articles) that fulfil the criteria of that label. According to ISO principles, they are verified by a third, independent party and shall address the most significant environmental impacts throughout the whole life cycle of a product¹². However, not all labels fulfil these criteria and various types of labels exist, which differ in:

- ownership, e.g. governmental organisations (Nordic Swan, EU Ecolabel, etc.) individual

companies ("green product lines") or independent organisations (e.g. "Eco-cert");

- the type and ambition level of the label criteria, the process by which criteria are defined and the length of the revision periods;
- the degree of transparency about the label and its criteria;
- the type of products they cover, ranging from labels applicable to one type of product to product groups (e.g., cosmetics), to covering many different product types.

The Ecolabel Index¹³ currently lists 463 ecolabels worldwide, indicating the challenges for consumers and procurers to find labels reflecting their demands for environmental friendliness, quality and credibility. While the labels operated by public authorities and NGOs tend to include at least some criteria on the content (and emissions) of hazardous substances where relevant, many other labels do not address chemicals at all. In general, it would increase the consistency of labels if, as a minimum, all ecolabelled products would be free from REACH-identified SVHCs.¹⁴ Since ecolabels intentionally provide aggregated information, they are not suitable for communicating a company's individual substitution success or indicate which replacement was found. Hence, merely the fact that a product is "free from (certain) hazardous substances" is awarded by a potential gain of market access and not the individual progress of a company. They also do not reflect a company's overall chemicals management policy; i.e. a company may sell one eco-labelled product but use many hazardous substances in all other products it places on the market. Due to the lack of transparency of many ecolabels, even informed and diligent consumers have difficulties finding information on the label criteria and hence, cannot compare them when making purchasing decisions. In addition, the number of labelled products may be small and hence not allow a real choice for the consumer.¹⁵ If ecolabels are to more strongly encourage substitution, more (stringent) criteria on the absence of hazardous substances should be included in the labelling schemes. This may exceed the legal requirements, as not only SVHCs would be addressed, but also substances with less, but still severe, hazardous properties. Furthermore, the benefits of labelling should be increased by, e.g., promoting the purchase of ecolabelled products, by (legally) ensuring transparency and credibility of

¹³ <http://www.ecolabelindex.com/>.

¹⁴ This is systematically implemented, e.g., in the EU Ecolabel and national eco-labelling schemes, such as the Nordic Swan or the Blue Angel.

¹⁵ As ecolabels are an instrument that should reward front-runners, normally it is intended that only some of the products are labelled. Then, when the market shifts in that direction, the criteria are revised and made stricter.

¹² ISO 14024:2018(en) Environmental labels and declarations — Type I environmental labelling — Principles and procedures.

ecolabels and preventing the use of product claims to “greenwash” a company or product’s image, misleading consumers on a product’s safety and environmental friendliness.

3.2.2 Green public procurement excludes unsafe products from the public domain

Public administrations purchase large volumes of products and hence, are important actors in the markets. They procure both chemical products as well as articles for use in various areas such as construction, cleaning and maintenance and hygiene (hospitals), but also offices, childcare institutions, canteens, etc. Consequently, if public procurers required the absence of (particular) hazardous substances in the goods and services they purchase, they would pull a significant market share towards substitution. However, the inclusion of chemicals-related criteria into the public procurement rules is not currently common practice in many administrations. Therefore, suppliers to public entities are not under pressure to substitute. Among the reasons for a lack of such procurement criteria appear to be a lack of political commitment from administration leaders, a lack of competence and resources of procurers and a lack of guidance and support in the practical implementation of green public procurement (GPP) rules addressing the use of hazardous substances. When public entities try to implement criteria, they are often limited by the availability of information on chemical content in the procured goods. This is a problem both when identifying what criteria to use (information is needed on what substances may be present, and if there are alternatives available without these substances) and when evaluating bids (suppliers have to be able to give reliable information on whether their product contains the unwanted substances). Consequently, substitution could be enhanced if awareness, competence and resources were increased within the public administrations and if the issue were raised on the political agenda so as to obtain (more) commitment at the policy level. In addition, tying GPP rules to other instruments, such as ecolabels could be a good starting point; this would lower the hurdles for GPP implementation and make the application of ecolabels more attractive at the same time.

3.2.3 Taxes and fees increase costs of products containing hazardous substances

Chemicals legislation is almost entirely defined at the EU level, limiting the possibilities of the Member States to implement national priorities and/or set stricter requirements. One option for influencing the markets in this respect and to encourage the development and placing on the market of safer products is the introduction of taxes

and fees on the manufacturing, use or emission of hazardous chemicals. The few examples of such taxes imposed by Nordic Member States have not been explicitly evaluated for effectiveness in terms of reducing the use and emission of hazardous substances. It is therefore difficult to derive conclusions on their power to support substitution. There are two main opportunities to use taxes and fees to support substitution and raise awareness. First, there is a direct relation between the use of a hazardous substance and a monetary punishment (steering effect). Second, the opportunity to internalise (environmental) costs connected to the use of hazardous substances implements the polluter pays principle. Among the disadvantages are that taxes and fees are likely to be cumbersome and difficult to control for authorities and that they would distort the EU common market if only some Member States implemented them. Furthermore, and according to the discussions at the international seminar, there is an expectation that in accordance with the perceived overall political and economic climate the long-term benefits of taxes and fees are likely to be weighted as less important than the short-term (potentially) adverse economic and administrative impacts of taxes and fees on the competitiveness of companies. This will result in a lack of general support for the tool as such. The challenges of controlling taxes and fees may be solved by a “smart design” of the system, e.g. by imposing a general tax on the use of chemicals, and granting reductions to companies proving the absence of substances with (certain) hazardous properties in their products or processes, i.e. the burden of proof for tax reductions would be on the companies. Potential market distortions could only be prevented (and this would also decrease the overall burdens on companies) if the Member States agreed on and implemented a common system; however, this conflicts with the idea of implementing national priorities.

4 The potential influences of management styles and “soft factors” on substitution

Several other factors and instruments (may) impact companies’ willingness and possibilities to phase out the use of hazardous substances. Some of those which were discussed at the international seminar are introduced in the following.

4.1 Awareness, competences and resources

It is almost a commonality in all discussions on chemicals that the awareness level among companies as well as consumers/the general public and decision makers on the risks from hazardous substances, the potential alternatives and the benefits from substitution is currently not sufficient to create

a positive attitude towards substitution or “green chemistry”. Supply chain actors need to be convinced and educated, and many consumers are not aware of their right to know about SVHCs in articles according to REACH Art. 33(2). They are also unaware of the opportunities to reduce their overall exposure to hazardous substances through purchasing decisions which increase the demand for less hazardous products. Among the reasons for this comparably low awareness is that education systems, from grade school to university and professional training do not include “green chemistry” in their curricula. Furthermore, society in general lacks a basic understanding of the role of chemicals in today’s industrial production and consumer products and the related risks. As the impacts of chemical exposure are frequently invisible in the short term, and health or environmental damage is often associated with exposures taking place long before the effect is apparent, the urgency and relevance of reducing exposures remains hidden. Economic pressures have increased tremendously during the last decades, resulting in trends to reduce product and production costs by, e.g., cutting human resources. Chemical-related tasks are partly outsourced to specialists and in-house knowledge (on chemicals) is lost. This leaves the remaining personnel overloaded, with time only for the most urgent, i.e. compliance-related tasks but usually not chemical safety. These challenges and trends are interlinked and enhance each other. Only clear decisions to dedicate resources to the issue of chemicals would interrupt the vicious cycle. This could be achieved in companies, for example, by more explicit mention of chemicals in environmental management systems.

4.2 Management systems and voluntary programmes

Many companies have adopted formalised environmental management systems, like EMAS and ISO 14 000¹⁶, which require external certification and are well-known and accepted in the EU and worldwide. Neither EMAS nor the ISO 14 000 explicitly mention “hazardous substances” as an issue for which goals, responsibilities and procedures be defined and progress be monitored. Consequently, related checklists, methods and tools are missing in guidelines for implementation of the environmental management systems and companies must not include chemicals in their evaluations. Thus, chemicals are normally not an issue in environmental management systems, except in the chemical sector.

Environmental management systems do not prescribe any content, but could, as a minimum, inspire consideration of the need to improve chemicals management in companies. This may inadvertently increase the overall awareness and competences of staff and the demand for internal allocation of resources. Some (voluntary) chemicals management programmes exist that address sectors, regions or the global level, such as the Responsible Care Programme in the chemicals industry, the Non-Toxic Environment Strategy of Sweden and the Strategic Approach on International Chemicals Management (SAICM). Like company management systems, these programmes define goals, measures and success indicators regarding the management and reduction of chemical risks and increased chemical safety. Such voluntary programmes point to the direction the development should go and highlight opportunities for all stakeholders to contribute to achieving the goals and cooperating with others to, among others, support substitution and improved risk management. However, due to the need for consensus on goals by many actors, these programmes are frequently only moderately ambitious and stakeholder involvement may remain below expectations when concrete activities (requiring resources) are implemented. Industry-run initiatives may be insufficiently accepted by authorities and the general public, in particular civil society organisations, due to a lack of transparency/credibility and a perception that the level of ambition is too low. Despite the inherent difficulties in formulating ambitious goals, voluntary chemicals programmes and management systems may be an opportunity and door opener to reach companies that are not yet aware of chemicals but willing to improve and/or which are not reached by other means. It may be worthwhile to explore the potential of these instruments to reach out to and support those companies which are not members of associations and/or which are not responding to supplier demands. These companies may be open to non-binding activity as a “starter” on chemicals risk management and substitution.

4.3 Supply chain cooperation and communication

Barriers related to the structure and “traditions” of supply chains in combination with a fear of losing confidential business information are strong drivers for a “business-as-usual” approach by companies. The REACH requirement to communicate on SVHCs in articles along the supply chain complements the prior-existing information provision on compliance with e.g. the substance-related conformity of electrical and electronic equipment and vehicles. But due to the frequent updates of the candidate list and the fact that all articles have to be compliant, attention has increased

¹⁶ EMAS: European Eco-management and Auditing Scheme. ISO: International Organization for Standardization.

significantly on efforts to communicate in the supply chain. Several IT solutions are available on the market to support communication and compliance management along supply chains, also outside the EU. There are discussions on standardising the respective information exchange¹⁷, thereby ensuring the compatibility of IT tools, including the company internal material management software. However, many supply chain actors are not aware of the requirement to communicate on SVHCs in articles according to REACH (in particular if parts of the supply chain are located outside the EU). Furthermore, the benefits of providing and receiving this information for compliance management, product design and risk reduction are frequently not valued highly enough to outweigh the expected communication efforts. Although some supply chains do aim at implementing full material declarations in the long run, most companies stick to the minimum approach of communicating only the substances for which legal requirements exist. This decreases the potential of substitution tools such as green public procurement, eco-labelling and more.

5 Conclusions

Substitution is the most effective measure to avoid risks from hazardous substances. However, the replacement of hazardous substances by less hazardous or non-hazardous ones or by technical or organisational measures may not always be feasible (yet). Identifying those alternatives that provide the necessary functionalities is a challenge. They must be suitable for a particular application and be less hazardous than the substance to be replaced. Substitution is hindered by uncertainties related to the economic risks and benefits of using alternatives, by a lack of awareness, competences and resources on chemical risks and substitution as well as inertia of supply chains, and other infrastructural limitations of individual companies. Furthermore, up to now there has been little interest and support by NGOs and authorities in substituting hazardous substances. Thus the market incentives and pressures have been low. Restrictions under REACH and product legislation as well as the further implementation of the REACH authorisation will trigger the phase-out of the most hazardous substances. However, for restricting substances authorities must demonstrate risks and identify proportional measures. Because they inherently lack information on substance uses and the availability of alternatives, this will progress at a slow pace. Recent systematic assessments of the effects of legal requirements on substitution and emission/ exposure controls in OSH and environmental legislation do not exist. A better

understanding of their implementation would be useful to strengthen legal incentives and support activities for substitution. If economic or technical demands are strong enough, substitution will be triggered without any additional support. If this is not the case substitution is likely to occur at an ad hoc level but not in the economy as a whole. Assuming that the speed of phasing out at least the most hazardous substances (SVHCs) should be accelerated, it is necessary to employ all possible means to support such activities. This involves not only improving useful tools but also by interlinking tools in a smart and effective way in order to increase the benefits of substitution, to reduce economic uncertainties and costs/burdens for companies and to punish the (further) use of hazardous substances. According to the project findings and seminar discussions, it is further necessary to expand awareness-raising activities and to create an improved understanding of chemical risks and how they can be prevented. An improved understanding of the benefits of substitution for companies, the environment, human health and society as a whole is also important. Options to increase benefits from substitution include the integration of EU policies with respect to hazardous substances, e.g. by referring to a consolidated list of substances or substance properties as undesirable. Other measures may include rewarding the avoidance of hazardous substances with reduced legal obligations, such as less frequent emission measurements, or reduced fees. Products from companies that implement environmental management could be labelled accordingly (marketing effect). Such “smart interlinks” between existing tools and procedures that establish new or make an impact on existing consequences of using hazardous substances (e.g., changes in costs, obligations or market access) may boost substitution without any additional, new requirements or tools. Experts from the chemicals arena and experts working on/with the various tools that could be used to foster substitution should cooperate in order to improve the way chemicals are addressed by these tools. They should discuss and identify how interlinks between tools could be generated or, if they already exist, enhanced, including with legislation and its enforcement. In this regard, it is particularly regrettable that the EC postponed the development of the “strategy for a non-toxic environment”.¹⁸ This strategy could be the urgently needed framework that would allow for a holistic

¹⁷ See for example the „proactive alliance“.

¹⁸ The 7th Environmental Action Plan of the EU included a provision that such a strategy be developed by 2018. However, according to current knowledge, no such strategy will be published within the foreseen time-frame. As a new EC starts work only after October 2019, it is unclear how the work on the strategy will progress, if at all.

perspective of chemicals management which considers from all different angles to foster substitution, rather than addressing the issue in the currently dominant patchwork-like approach.¹⁹ The need to implement a comprehensive, fundamental and “cross-cutting” approach to directing market actors towards replacing (at least the most) hazardous substances was also one of the obvious conclusions at the international seminar.

¹⁹ The substitution strategy by the ECHA, however, is a good step into a different direction but limited due to the responsibilities and limited political mandate of the agency.

elni membership

If you want to join the Environmental Law Network International, please use the membership form on our website: <http://www.elni.org> or send this form to the elni Coordinating Bureau, c/o IESAR, FH Bingen, Berlinstr. 109, 55411 Bingen, Germany, fax: +49-6721-409 110, mail: Roller@fh-bingen.de.

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Gerhard Roller and Claudia Schreider

Editor in charge of the forthcoming issue:
Martin Führ

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The views expressed in the articles are those of the authors and do not necessarily reflect those of elni.

The Öko-Institut (Institut für angewandte Ökologie - Institute for Applied Ecology, a registered non-profit-association) was founded in 1977. Its founding was closely connected to the conflict over the building of the nuclear power plant in Wyhl (on the Rhine near the city of Freiburg, the seat of the Institute). The objective of the Institute was and is environmental research independent of government and industry, for the benefit of society. The results of our research are made available of the public.

The institute's mission is to analyse and evaluate current and future environmental problems, to point out risks, and to develop and implement problem-solving strategies and measures. In doing so, the Öko-Institut follows the guiding principle of sustainable development.

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The Environmental Law Division covers a broad spectrum of environmental law elaborating scientific studies for public and private clients, consulting governments and public authorities, participating in law drafting processes and mediating stakeholder dialogues. Lawyers of the Division work on international, EU and national environmental law, concentrating on waste management, emission control, energy and climate protection, nuclear, aviation and planning law.

Contact

Freiburg Head Office:

P.O. Box 17 71
D-79017 Freiburg
Phone +49 (0)761-4 52 95-0
Fax +49 (0)761-4 52 95 88

Darmstadt Office:

Rheinstrasse 95
D-64295 Darmstadt
Phone +49 (0)6151-81 91-0
Fax +49 (0)6151-81 91 33

Berlin Office:

Schicklerstraße 5-7
D-10179 Berlin
Phone +49(0)30-40 50 85-0
Fax +49(0)30-40 50 85-388

www.oeko.de

The University of Applied Sciences in Bingen was founded in 1897. It is a practiceorientated academic institution and runs courses in electrical engineering, computer science for engineering, mechanical engineering, business management for engineering, process engineering, biotechnology, agriculture, international agricultural trade and in environmental engineering.

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Contact

Prof. Dr. jur. Gerhard Roller
University of Applied Sciences
Berlinstrasse 109
D-55411 Bingen/Germany
Phone +49(0)6721-409-363
Fax +49(0)6721-409-110
roller@fh-bingen.de

www.fh-bingen.de

The Society for Institutional Analysis was established in 1998. It is located at the University of Applied Sciences in Darmstadt and the University of Göttingen, both Germany.

The sofia research group aims to support regulatory choice at every level of public legislative bodies (EC, national or regional). It also analyses and improves the strategy of public and private organizations.

The sofia team is multidisciplinary: Lawyers and economists are collaborating with engineers as well as social and natural scientists. The theoretical basis is the interdisciplinary behaviour model of homo oeconomicus institutionalis, considering the formal (e.g. laws and contracts) and informal (e.g. rules of fairness) institutional context of individual behaviour.

The areas of research cover

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- Land use strategies
- Role of standardization bodies
- Biodiversity and nature conservation
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Contact

Darmstadt Office:

Prof. Dr. Martin Führ - sofia
University of Applied Sciences
Haardttring 100
D-64295 Darmstadt/Germany
Phone +49(0)6151-16-8734/35/31
Fax +49(0)6151-16-8925
fuhr@sofia-darmstadt.de

www.h-da.de

Göttingen Office:

Prof. Dr. Kilian Bizer - sofia
University of Göttingen
Platz der Göttinger Sieben 3
D-37073 Göttingen/Germany
Phone +49(0)551-39-4602
Fax +49(0)551-39-19558
bizer@sofia-darmstadt.de

www.sofia-research.com



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elni

In many countries lawyers are working on aspects of environmental law, often as part of environmental initiatives and organisations or as legislators. However, they generally have limited contact with other lawyers abroad, in spite of the fact that such contact and communication is vital for the successful and effective implementation of environmental law.

Therefore, a group of lawyers from various countries decided to initiate the Environmental Law Network International (elni) in 1990 to promote international communication and cooperation worldwide. elni is a registered non-profit association under German Law.

elni coordinates a number of different activities in order to facilitate the communication and connections of those interested in environmental law around the world.

Coordinating Bureau

Three organisations currently share the organisational work of the network: Öko-Institut, IESAR at the University of Applied Sciences in Bingen and sofia, the Society for Institutional Analysis, located at the University of Darmstadt. The person of contact is Prof. Dr. Roller at IESAR, Bingen.

elni Review

The elni Review is a bi-annual, English language law review. It publishes articles on environmental law, focusing on European and international environmental law as well as recent developments in the EU Member States. elni encourages its members to submit articles to the elni Review in order to support and further the exchange and sharing of experiences with other members.

The first issue of the elni Review was published in 2001. It replaced the elni Newsletter, which was released in 1995 for the first time.

The elni Review is published by Öko-Institut (the Institute for Applied Ecology), IESAR (the Institute for Environmental Studies and Applied Research, hosted by the University of Applied Sciences in Bingen) and sofia (the Society for Institutional Analysis, located at the University of Darmstadt).

elni Conferences and Fora

elni conferences and fora are a core element of the network. They provide scientific input and the possibility for discussion on a relevant subject of environmental law and policy for international experts. The aim is to gather together scientists, policy makers and young researchers, providing them with the opportunity to exchange views and information as well as to develop new perspectives.

The aim of the elni fora initiative is to bring together, on a convivial basis and in a seminar-sized group, environmental lawyers living or working in the Brussels area, who are interested in sharing and discussing views on specific topics related to environmental law and policies.

Publications series

elni publishes a series of books entitled "Publications of the Environmental Law Network International". Each volume contains papers by various authors on a particular theme in environmental law and in some cases is based on the proceedings of the annual conference.

elni Website: elni.org

The elni website www.elni.org contains news about the network. The members have the opportunity to submit information on interesting events and recent studies on environmental law issues. An index of articles provides an overview of the elni Review publications. Past issues are downloadable online free of charge.

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elni, c/o Institute for Environmental Studies and Applied Research
FH Bingen, Berliner Straße 109, 55411 Bingen/Germany

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