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REVIEW

Strategic Environmental Assessment: The Term “Plans and Programmes” as Interpreted by the European Court of Justice

Thomas Bunge

Strategic Environmental Assessment in Air Quality Planning in Germany

Ulrike Weiland

Remedying Failures to Conduct EIA, Should Not Result in a Game of Snakes and Ladders.

Comment on CJEU Case C-261/18 of 12 November 2019

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Compliance Challenges of the Automotive Industry Concerning Obligations of Article 33 REACH

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Tricky Relationships: Chemicals, Waste and Product Legislation

International Conference on Green Chemistry

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Editorial

Already the founding conference of elni in 1990 discussed the potential benefits of the ‘Environmental Impact Assessment’ (EIA). The ‘Strategic Environmental Assessment’ (SEA) might be seen as the younger sister of EIA; however in terms of scope bigger. The European Directive on SEA has been subject to a REFIT-process by the European Commission. The results were published at the end of November this year. The conclusion in general terms: The SEA Directive is fit for purpose. However, some Member States expressed their concerns with regard to the recent decisions of the CJEU. *Thomas Bunge* assesses the Term ‘Plans and Programmes’ as interpreted by the highest EU court. Air quality is also a neuralgic point in many cities throughout Europe. In this respect, *Ulrike Weiland* reports on SEA in Air Quality Planning in Germany.

Attracta Uí Bhroin from Dublin based Irish Environmental Network comments on a November 2019 CJEU ruling following the ‘Derrybrien case’ concerning EIA in Ireland. According to *Attracta*, the judgement has profound implications for several legal questions concerning, i.a., obligations to remedy and state liability.

Besides, the current issue of the *elni Review*, once more, features several contributions on the governance of chemical substances. *Simon Johannes Winkler-Portmann* analyses the compliance challenges of the automotive industry concerning obligations of REACH on the communication of ‘substances of very high concern’ (SVHCs). He thus assesses the effectiveness in terms of compliance of the sector’s governance approach to control chemical substances used in every single part of a vehicle, and develops options to overcome existing deficits.

The *Recent Developments* section starts off with *Silke Kleihauer* and *Leonie Lennartz* reporting on the results of a research project aiming to support ‘more sustainable chemistry’ in the textile supply chain, i.a. by broadening the view from the ‘reactive’ compliance position to a ‘proactive’ beyond compliance perspective. Thereby outlining, in addition, the highlights of a ‘Scenario Process’ together with actors from the textile chains, the piece also provides relevant methodological perspectives with a view to supporting transitions of industry sectors in the direction of sustainable development. The contributions by *Winkler-Portmann* and *Kleihauer / Lennartz* are also to be seen in the context of the

pervasive goal of creating more ‘Circular Economies’, which is pushed recently by normative impulses (e.g. recast of the Waste Framework Directive – WFD) and which increasingly is reflected in strategic approaches of companies. Against this background, *Henning Friege* et al. comment on the ‘tricky relationships’ of chemicals, waste and product legislation. Considering the interfaces and intersections of these frameworks they formulate eminent policy recommendations aimed to ensure that ‘Circular Economies’ are capable of avoiding the ‘recycling’ of problematic chemical substances present in (waste) raw materials. Finally, *Martin Wimmer* from the Austrian Ministry for Sustainability and Tourism outlines key findings of an ‘International Conference on Green Chemistry’ during the Austrian EU Presidency. The event discussed perspectives how to foster and better integrate into the legal frameworks the principles of ‘Green Chemistry’, which guide the design of chemical substances, products and processes to avoid hazards and reduce resource use – thus offering potentials for industries to ensure their compliance and also for ‘Circular Economies’.

Claudia Schreider, Julian Schenten and Martin Führ
December 2019

Market Opportunities for “More Sustainable Chemistry” Through the REACH Regulation

Results from a Case Study of the Global Supply Chains in the Textile and Sporting Goods Industry

Silke Kleihauer and Leonie Lennartz

1 Introduction

The report outlines the results of the research project ‘Market opportunities for “more sustainable chemistry” through the REACH Regulation¹ (Sustainable Sporting Goods – SuSport)². The aim of the project completed in 2018 is to support ‘more sustainable chemistry’³ in the textile supply chain and to broaden the view from the ‘reactive’ compliance position to a ‘proactive’ – beyond compliance perspective. Strategically, this approach is based on the following consideration: those who still want to be ‘compliant’ tomorrow have to act ‘beyond compliance’ today. Such a strategy not only guarantees legal compliance, but also opens up new market opportunities.⁴

Relevant actors participating in the transdisciplinary research project are mainly manufacturers of textile chemicals (organised in Germany in the TEGEWA association, partner in the SuSport project) as well as companies that manufacture and sell textile products, such as clothing and sporting goods (for sporting goods in Germany organised in the BSI, also project partner). However, since the project’s subject addresses a transformation process of the global textile supply chains, all other actors involved in the production processes must also be taken into account.

2 Normative and societal context and challenges

Industry uses chemical products in almost all value chains. Some chemicals can be used without any problems, others can cause harm to humans and the environment, if they have problematic⁵ properties and there is a relevant exposure; for others it is unclear whether and what effects they have.

At global, European and national level, there are several initiatives with the aim to reduce the risks caused by chemicals to human health and the environment. A milestone is the 2002 target for chemical policies formulated at the Rio follow-up conference in Johannesburg,⁶ now integrated into the Sustainable Development Goals (SDGs) under the heading ‘Sustainable Production and Consumption’ (SDG 12).⁷ SDG 12.4 stipulates to *„by 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment”*. In contrast to most other SDG’s, whose time perspective extends to 2030, this goal already applies to the year 2020. The common concern of all SDGs formulates the heading of Agenda 2030, ‘Transforming our World’.

On the way towards a ‘more sustainable chemistry’, one can point out the following major developments:

- The multi-stakeholder ‘Strategic Approach to International Chemical Management’ (SAICM)

1 Regulation (EC) No 1907/2006 of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), [2006] OJ 396/1.

2 For additional information refer to <https://www.sofia-research.com/projects/ongoing-projects/market-opportunities> as well as to the full project report at Kleihauer, S., Führ, M. and Schenten J. Marktchancen für “nachhaltigere Chemie” durch die REACH-Verordnung - Am Beispiel globaler Lieferketten in der Textil- und Sportartikel-Industrie, sofia-Studien zur Institutionenanalyse 19-1, Darmstadt 2019.

3 “Sustainable development” is a process; the sustainability assessment of products and processes changes over time, depending on the available data. Accordingly, ‘sustainable chemistry’ cannot be conclusively defined; the goal must be much more the continuous further development of chemical products and processes, taking into account the dynamic requirements of the model of sustainable development.; see for relevant criteria Blum C., Bunke D. and Hungsberg M. et al. (2017): The concept of sustainable chemistry: key drivers for the transition towards sustainable development. Sustain Chem Pharm 5:94–104 and for Green Chemistry Anastas, P.T. and Warner, J.C. (1998): Green chemistry: theory and practice. Oxford University Press, New York.

4 A short film summarizes the main results of the project, see <https://www.youtube.com/watch?v=qOPB0c914Q> (available in English and German).

5 Substances for which there is evidence of a toxicological or ecotoxicological hazard potential, but also substances for which there are well-founded indications of concern, but for which there is no complete scientific certainty about the hazard potential (according to Principle 15 of the United Nations Rio Declaration on Environment and Development (13 June 1992), 31 ILM 874 (1992)), are summarised in this article under the heading of problematic (chemical) substances.

6 United Nations, Plan of Implementation of the Johannesburg World Summit on Sustainable Development, UN Doc A/Conf.199/20 (2002) (Johannesburg Implementation Plan).

7 United Nations, Transforming our world: The 2030 agenda for sustainable development, UN Doc. A/70/L.1 (2015) (Agenda 2030); cf. Führ, M./Schenten, J. (2018): Sustainable Production and Consumption (SPC), in: Krämer, L. & Orlando, E. (Hrsg.), Encyclopedia of Environmental Law - Principles of Environmental Law. Cheltenham: Elgar.

and resulting programmes, such as ‘Chemicals in Products’ (CiP).⁸

- The ‘POP Convention’⁹ adopted for persistent organic substances,
- The Globally Harmonized System (GHS) developed at United Nations level,¹⁰
- And - as a particularly demanding regulatory approach on an international scale¹¹ – the REACH Regulation of the European Union.

The common goal of these regulations and initiatives is to work towards ensuring that people and the environment do not get harmed by problematic substances. This applies to the use of chemicals in production processes and to consumer products.

In order to achieve this goal, changes along the (mostly: global) supply chains are required. In view of the large number of problematic substances and the complexity of the production processes, proactive action is required in addition to mere adherence to substance bans and notification obligations (compliance). Innovations cannot be “enforced” by legislators. Rather, the actors along the supply chain must make their respective contribution to the transformation processes. However, this presupposes that the respective companies see an economic incentive, that allows them to adopt well-established routines. In this respect, normative and societal impulses are crucial.

In short: since it is unrealistic that the State will comprehensively regulate all problematic substances, there is a need for market opportunities which proactive companies can seize when investing in innovations for (more) sustainable chemistry.

The challenge also applies to the fashion and textile industry (including sporting goods): around 7,000 chemical products are used for the production of fashionable clothing, from dyeing to impregnation. The clothing industry reacted to the pressure from Greenpeace's Detox campaign by launching the ZDHC initiative.¹² This includes a joint self-commitment to remove a number of problematic

substances from production processes worldwide by 2020.

If the companies involved want to achieve this self-imposed goal, they must overcome the obstacles that currently impede them; which at the same time presupposes that there are sufficiently clear incentives to get involved in the transformation processes. In other words, the players in the global textile supply chain, like manufacturers of textile chemicals, textile finishers or brands, can respond reactively to these developments or take an active part in the development of a more sustainable chemistry.

3 Analytical framework and research approach

3.1 Transdisciplinary research approach

Effective solutions to ensure that humans and the environment do not come in contact with problematic substances, either from the production processes or through consumer products, can only be worked out together with the relevant actors (transdisciplinary approach). With this approach, it is possible to take a broader look at how activities on different levels interrelate and to develop joint approaches for solutions. It is more likely to identify the obstacles that have so far stood in the way of the goal and to identify and strengthen incentives that enable the actors to engage in the processes of change. For this reason, the project involves the relevant actors from the beginning.

The conceptual framework of the project is based on

1. the research and planning approach developed at ETH Zurich which illustrates the synthesis of transdisciplinary knowledge integration¹³ and
2. the research approach of the Society for Institutional Analysis (sofia), which has been pursued and practiced for more than 15 years and focuses on the behaviour of the actors involved in any regulatory challenge assessed.¹⁴

Together, the two concepts result in a transdisciplinary analytical approach that enables a structured method when it comes to developing and implementing options for sustainability-related problems together with project partners. The basic

8 See <http://www.who.int/ffcs/saicm/en/> and <http://www.saicm.org/> and especially the Chemicals in Products Program of the United Nations Environmental Program (UNEP)

(http://drustage.unep.org/chemicalsandwaste/sites/unep.org.chemicalsandwaste/files/publications/CiP%20programme%20October2015_Final.pdf).

9 Convention on Persistent Organic Pollutants, “Stockholm Convention” of 22 May 2001; in force 17 May 2004, 40 ILM 532.

10 Cf. on the latest GHS criteria and the implementation status http://www.unepce.org/trans/danger/publi/ghs/ghs_welcome_e.html (20.11.2019).

11 Schenten, J.; Führ, M: Regulatory Risk Management of Chemicals, in: Responsible Consumption and Production, Encyclopedia of the UN Sustainable Development Goals, Walter Leal Filho, Anabela Marisa Azul, Luciana Brandli, Pinar Gökcin Özyayar, Tony Wall (eds.), Springer, Cham, Online, 2019 (ISBN 978-3-319-71062-4).

12 Zero Discharge of Hazardous Substances; see www.roadmaptozero.com.

13 Stauffacher, M. and Scholz, R. W. (2012): Transdisziplinäre Lehrforschung am Beispiel der Fallstudien der ETH Zürich. In: Dusseldorp, M. and Beecroft, R. (eds): Technikfolgen abschätzen lehren: Bildungspotenziale transdisziplinärer Methoden. Verlag für Sozialwissenschaften, Wiesbaden, p. 277–291; Vilsmaier, U. and Lang, D. J. (2014): Unternehmerische Nachhaltigkeit. In: Heinrichs, H.; Michelsen, G. (eds.), Nachhaltigkeitswissenschaften, Berlin Heidelberg, p. 321-367; Lang, D. J.; Rode, H. and von Wehrden, H. (2014): Methoden und Methodologie in den Nachhaltigkeitswissenschaften. In: Heinrichs, H.; Michelsen, G. (eds.), Nachhaltigkeitswissenschaften, Berlin Heidelberg, p. 115–144.

14 Bizer, K. and Führ, M. (2015): Compact Guidelines: Practical Procedure in Interdisciplinary Institutional Analysis, Darmstadt.

structure of the methodological approach, explicitly also with regard to the types of knowledge, is roughly defined.

The focus of this conceptual framework is on the systematic development of future-oriented design options, developed and evaluated in a transdisciplinary process.

The individual steps focus on specific types of knowledge, which can be characterised as follows:

- System knowledge: Knowledge of scientific/technical, economic and social science methods and theories, to consider different perspectives when (1) structuring problems, (2) identifying a wide range of design options and (3) analysing the associated impacts, including the risks and opportunities contained therein, and assessing them against normative criteria.
- Normative orientation: Knowledge of legal requirements, social models and basic ethical principles as well as the ability to formulate requirements for the fulfilment of individual and organisational responsibility in order to determine and justify a corresponding need for change.
- Transformation knowledge: Knowledge of how (change) processes towards sustainable development can be implemented in concrete (operational and inter-organisational) constellations, but also in society as a whole.
- Implicit (tacit) knowledge, especially of the actors (partners in the project).

The challenge for the research team is to take into account the different stakes and perspectives of the project partners in such a way that their knowledge flows into the problem description and the development of solutions.

3.2 Roles of the actors and research questions of the project

When it comes to making the use of chemicals in the textile manufacturing process more sustainable, the individual players in the global supply chain have different roles. Manufacturers of formulations are particularly important, as most problematic chemicals enter the textile supply chain via formulations for dyeing and finishing. At the same time, the processes of dyeing and finishing textiles and outdoor products take place predominantly at supplying facilities outside the legal scope of REACH (or regulations with comparable requirements), so that these companies do not have the regulatory incentive per se to use formulations that are free of problematic substances. In this respect, there is no reason for the dyeing and finishing industry in developed and emerging

countries to abandon established and/or less expensive formulations and processes. Without additional impulses, there will be no changeover to 'more sustainable production processes', even if alternative formulations, such as those from TEGEWA companies, are already available on the market.

In this respect, companies in the sporting goods industry (but also other brands) play a special role, as they must provide the impetus for more sustainable chemicals in the supply chain. They need market mechanisms that generate a corresponding demand, which at the same time must be sufficiently large for a corresponding impulse to emerge.

The project was therefore dedicated to the core question of how chemical management can be designed to support processes towards sustainable chemistry in global supply chains; in particular, by ensuring that problematic substances are not used in production and are not contained in the product.

The central hypothesis here is that the state does not have the possibilities and capabilities to comprehensively regulate all problematic substances and that the actors in the global textile supply chain need corresponding 'market opportunities' that enable proactive companies to realize innovations in the direction of '(more) sustainable chemistry'. With regard to the goal of opening up market opportunities for a 'more sustainable chemistry', the following questions must be asked:

1. Which changes are needed for which actors in the textile supply chain (delta analysis)?
2. Which organisational or institutional changes need to be tackled across the supply chain (design options)?

3.3 From individual perspective to system view

The main result of the kick-off meeting of the project held together with the project partners was the finding that market opportunities for a 'more sustainable chemistry' presuppose a demand pull for corresponding textile chemicals. This should come from the textile and sporting goods brands as well as retailers and should be 'passed on' in a structured manner to the manufacturers and their suppliers in the emerging markets. In relation to the defined 'target situation', the project analysed the incentive and impediment situation in the status quo on the basis of several workshops ('round tables') and interviews with the participating companies and associations. On this basis, it should be possible to identify the behavioural contributions that the individual actors in the supply chain have to make in order to achieve the 'target situation'. The results achieved were again the subject of joint workshops.

Although the results of the analysis were shared in principle, there was no common understanding among the project participants of how chemical management can be designed in practice to support processes towards more sustainable chemistry in the global supply chain. Most agreed that it helps to ensure that problematic substances are not used in production and are not contained in the product. Besides, it became clear, that, among other things, the sectoral informal norms (i.e. professional routines and mind sets) made an open view of the problem situation more difficult. It was not possible to link the different perspectives and needs productively. As a result, a discourse on what 'cannot be done' or what other actors could do predominated and the market opportunities opened up by 'more sustainable chemistry' receded into the background of the discussion.

The project team therefore chose, in coordination with the funding agency and the cooperation partners, a different format for the interaction of the participants. A scenario process opened up the patterns of thoughts and argumentations of the actors in the textile chain: Through this process, the actors developed a common understanding of which factors in the status quo stand in the way of a more sustainable chemistry. This process showed how important it is to detach oneself from the perspective of the individual actors and to develop a common system view of the textile supply chain. Last but not least, market opportunities and the necessary change processes are difficult to realize by individual companies.

3.4 Multi-level scenario process with strategy development

In a team process, the project developed scenarios for the textile industry in 2030. Against the background of the goal of contributing to a more sustainable chemistry in the textile supply chain, the task of the scenario process was to develop a common understanding of what changes are needed for whom in the textile supply chain.

The scenario development in combination with a subsequent strategy workshop supported this process. A scenario team,¹⁵ which reflects the different perspectives of the textile supply chain, developed the scenarios. The team was supported by the methodical expertise of Prof. Dr. Horst Geschka.¹⁶ In order to keep the time burden on the team members as small as possible, the foundation

of the scenarios in the team process was created over two workshops. In addition to the meetings, there was written input from the team members. On this basis, the project worked out the scenarios, taking into account the feedback from the scenario team.

Methodically, the scenario development can be summarized by five major steps, each one comprising several activities.

1. Definition of scenario subject area
2. Identification and structure of the most important impact factors on the subject (descriptors) and assessment of how descriptors impact each other (driving and driven factors)
3. Set up of projections for each descriptor
4. Development and interpretation of selected scenarios (combination of consistent projections), further development into scenario narratives
5. Define strategies and measures

The subject area chosen by the SuSport project was the textile industry in 2030 in relation to clothing textiles, including standard functionalized textiles, with regard to the use and handling of chemicals in the global textile supply chain.

Two scenarios have been developed. The scenario 'muddling through' tells the story of how certain influences lead to the textile industry developing in a similar way as before (i.e. only with gradual, rather than 'evolutionary' improvements with regard to the handling of chemicals). The 'boldly ahead' scenario, on the other hand, tells the story of the factors that fundamentally change the management of chemicals in the textile supply chain and create a value chain that is (mostly) free of problematic substances.¹⁷

After the development of the scenario stories, the aim of the strategy workshop was to clarify which strategic measures would support the textile industry in the 'boldly ahead' direction. To this end, the workshop participants had to critically assess the existing strategies of the textile industry and the brands with regard to the challenges of 'Sustainable Development' (especially SDG 12.4).

4 Results

The following sections briefly summarize the main findings and recommendations of the project.

4.1 Status quo in the textile supply chain

Most of the textile products are manufactured in a global supply chain, with the majority of production taking place in emerging markets. Manufacturers

15 The team consisted of project representatives from Darmstadt University of Applied Science, TEGEWA and BSI as well as other project partners: textile brands and retailers, textile production, NGOs and Geschka & Partner Consulting.

16 The methodology was developed in 1976 by Prof. Geschka and staff at the Battelle Institute, see <http://www.geschka.de/index.html> (last viewed on 21.04.2017).

17 See the link in *supra* note 2 under which the scenario stories can be retrieved.

based in these countries still use a large number of chemicals whose harmful effects on humans and the environment are already known. For this reason, there are currently difficulties in fulfilling the legal requirements and to be simply 'compliant' with the product specifications of REACH, among other things.

A large number of the actors find it difficult or consider it impossible to change the structures in the textile supply chain and thus create the basis for a proactive approach in the supply chain. They see limited opportunities to influence the supply conditions.

A high number of product controls is currently necessary to ensure that the ready-made garments that go on the market do not contain any (banned) problematic substances. Many brands also make use of certified products (e.g. Blue-sign). Both are associated with high costs, but at the same time only convey a rather selective product safety; if only because it is simply not possible to test all products in all variations for all possible problematic substances - batch-wise, again and again. At the same time, brands and retail must constantly expect that independent product tests negatively influence consumer confidence and their brand reputation.

4.2 Chemical management in the global supply chain

The project therefore raised the question of how to develop a chemical management system that supports processes towards more sustainable chemistry in the global supply chain and, in particular, helps to ensure that problematic substances are not used in production and are not contained in the product. The type and scope of chemical management depends on the objectives (compliance or beyond compliance) of the actors involved. Depending on the goals they set for chemical management,

- more or less chemical substances are on the product-related Restricted Substance List (RSL) or the process-related Manufacturing Restricted Substance List (MRSL),
- they decide how to communicate and implement them in the supply chain,
- different requirements arise according to the available type and extent of knowledge about the process chemicals used in the supply chain as well as about the ingredients of the products,
- various measures are planned to identify problematic substances at an early stage, and
- their requirements with respect to the facilities differ (workplace safety, release into the

environment, residues in the product, product quality), including controls.

This heterogeneity complicates a coordinated approach in the industry. It should be noted that individual players have little influence on the practices of their suppliers, as they make up only a small fraction of a supplier's total orders. What is needed, rather, is a merger and the implementation of uniform strategies in chemicals management. It must be clarified whether and which joint communication and cooperation instruments in the supply chain are capable of generating an active demand for alternative substances and/or processes.

There is no uniform answer to the question of which measures can lead to problematic substances no longer being used (or being used much less). Moreover, the notion that a (problematic) substance can easily be replaced by another substance does not apply in many constellations. In many cases, organisational adjustments and changes in other operational processes, possibly even in the equipment and processes, are also necessary.

4.3 Recommendations for the players in the global supply chain

In the course of the scenario process, agreement was reached on the central factors to be tackled: The textile industry needs a uniform approach that ensures that the chemical substances used in the processes are known and tracked in the products, which enables brands to react to problematic chemicals at an early stage. It is also important that an industry standard ensure global compliance in the long term, which presupposes, however, that the company first acts in a non-compulsory manner ('beyond compliance'). In order to achieve this, cooperation is needed on a horizontal and vertical level, from which all parties involved, including those in the supplier countries, benefit. In addition, further normative impulses are needed to support uniform 'more sustainable' chemicals management.

The next step is to implement the measures considered to be important in the individual companies and along the supply chain and to win a group of front-runners with a proactive 'boldly ahead' culture. It is also important to initiate a discussion process at the EU level and within the framework of SAICM in order to build support on the normative level. Support could come from Sweden, where the government is developing relevant programmes.¹⁸ It must also be clarified to what extent the Chemicals in Products Project (CIP) can incorporate the changed system perspective into its activities within the framework of SAICM and

¹⁸ KEMI [Swedish Chemicals Agency] (2016): Hazardous chemical substances in textiles: Proposals for risk management measures, Stockholm.

to what extent it is possible to adapt the ZDHC activities to the strategic measures developed.

5 Outlook and further development

It remains to be seen whether the initiated processes will achieve a sufficient momentum which is stronger than the forces of resistance observed in the project. Within the framework of follow-up projects that build on the findings of the SuSport project (e.g. the 'AskREACH' project funded within the framework of the EU LIFE programme in 2017-2022)¹⁹, there is now the opportunity to support the front runners in the context of the measures envisaged to improve communication in the supply chains and to set up corresponding organisational structures.

After completion of the project, the EU revised the Waste Framework Directive because of the European Commission's 'Circular Economy' initiative. The obligation of all suppliers of articles operating on the EU market to report to a central database (set up at the European Chemicals Agency ECHA) any article containing more than 0.1% of substances of very high concern (SVHC)²⁰ in one of its parts, which is anchored in Article 33 REACH, gives a significantly stronger normative impulse. This was already evident at the Chemical Watch 'Global Business Summit' in March 2018 in Amsterdam, at which representatives of various globally active companies and their associations came together to form an informal Proactive Alliance²¹ in order to jointly define the content and technical minimum standards - as a result of a broad consensus towards a 'full material declaration'.²²

The regulatory framework must also be further developed in such a way that the various sets of rules provide impetus in the direction of a 'greener chemistry':²³ the starting point is first the design of the substances and products, then the individual manufacturing steps in industrial plants up to marketing, the use and consumption of the products up to their disposal with the highest possible return into the material cycle.

19 See www.askreach.eu.

20 See <https://echa.europa.eu/candidate-list-table>.

21 See reports of Chemical Watch (15.03.2018: „Industry representatives start talks on cross-sector material declarations“ and in „Global Business Briefing“ No. 107 from May 2018, p. 1 ff. <https://chemicalwatch.com/61154/theres-an-app-for-that>.

22 The participating companies and associations gave the sofia research group the mandate to moderate this clarification process. For details visit <https://www.reach-helpdesk.info/reach/unternehmen/proactive-alliance>.

23 See Führ, M., Schenten J., Kleihauer, S., Integrating "Green Chemistry" into the Regulatory Framework of European Chemicals Policy, Study on behalf of the Austrian Federal Ministry for Sustainability and Tourism, sofia-Studien zur Institutionenanalyse 19-2, Darmstadt 2019.

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Editors: Martin Führ, Andreas Hermann, Gerhard Roller, Claudia Schreider, Julian Schenten

Editors in charge of the current issue:
Martin Führ, Claudia Schreider and Julian Schenten

Editor in charge of the forthcoming issue:
Gerhard Roller (Gerhard_Roller@t-online.de)

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Authors of this issue

Attracta Uí Bhroin, Environmental Law Officer, Irish Environmental Network, Vice President of the European Environmental Bureau, EEB, Dublin, Ireland;
attracta@ien.ie.

Thomas Bunge, Honorary Professor at Technische Universität Berlin, Germany, specializing in environmental and planning law;
thomas_bunge@arcor.de

Henning Friege, Honorary Professor for sustainability sciences (University of Lüneburg, Germany) and lecturer for waste management (TU Dresden, Germany), www.n-hoch-drei.de;
Friege@N-hoch-drei.de.

Silke Kleihauer, Senior Researcher specialising in ecosystems, transformation processes and governance (thereof), Society for institutional Analysis (sofia), University of Applied Sciences in Darmstadt, Germany;
kleihauer@sofia-darmstadt.de.

Beate Kummer, Toxicologist and Chemist, Kummer umwelt:kommunikation (www.beate-kummer.de), Rheinbreitbach, Germany;
buero@beate-kummer.de.

Leonie Lennartz, Research Assistant at the Society for institutional Analysis (sofia), University of Applied Sciences in Darmstadt, Germany;
leonie.lennartz@h-da.de.

Ulrike Weiland, Professor of Geography at University of Leipzig, Germany, specialising in

Urban Ecology and Environmental Planning;
uweiland@uni-leipzig.de.

Klaus-Günter Steinhäuser, acted for about 15 years as Director of the Division for Chemical Safety of the Umweltbundesamt in Dessau-Roßlau, Germany;
klaus-g.steinhaeuser@posteo.de.

Martin Wimmer, Mag. Dr., Federal Ministry for Sustainability and Tourism, Unit 'Chemicals Policy and Biocides', Vienna, Austria;
martin.wimmer@bmnt.gv.at.

Simon Johannes Winkler-Portmann, Research Assistant at the Society for institutional Analysis (sofia), University of Applied Sciences in Darmstadt, Germany;
winkler-portmann@sofia-darmstadt.de.

Joachim Wuttke, worked for many years as Head of the Section for Municipal and Hazardous Waste Management of the Umweltbundesamt Dessau-Roßlau, Germany;
joachim.wuttke@web.de.

Barbara Zeschmar-Lahl, BZL Kommunikation und Projektsteuerung GmbH (www.bzl-gmbh.de), Oytzen, Germany;
bzl@bzl-gmbh.de.

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.

DECLARATION OF MEMBERSHIP

“Yes, I hereby wish to join the Environmental Law Network International.”

There is no membership fee. The PDF-version of elni Review is included.

If you want to receive the print version of the elni Review the fee is €52 per annum for commercial users and €21 per annum for private users and libraries.

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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.

The institute's activities are organized in Divisions - Chemistry, Energy & Climate Protection, Genetic Engineering, Sustainable Products & Material Flows, Nuclear Engineering & Plant Safety, and Environmental Law.

The Environmental Law Division of the Öko-Institut:

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.

The *Institute for Environmental Studies and Applied Research* (I.E.S.A.R.) was founded in 2003 as an integrated institution of the University of Applied Sciences of Bingen. I.E.S.A.R. carries out applied research projects and advisory services mainly in the areas of environmental law and economy, environmental management and international cooperation for development at the University of Applied Sciences and presents itself as an interdisciplinary institution.

The Institute fulfils its assignments particularly by:

- Undertaking projects in developing countries
- Realization of seminars in the areas of environment and development
- Research for European Institutions
- Advisory service for companies and know-how-transfer

Main areas of research

- **European environmental policy**
 - Research on implementation of European law
 - Effectiveness of legal and economic instruments
 - European governance
- **Environmental advice in developing countries**
 - Advice for legislation and institution development
 - Know-how-transfer
- **Companies and environment**
 - Environmental management
 - Risk management

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

- Product policy/REACH
- Land use strategies
- Role of standardization bodies
- Biodiversity and nature conservation
- Water and energy management
- Electronic public participation
- Economic opportunities deriving from environmental legislation
- Self responsibility

sofia is working on behalf of the

- VolkswagenStiftung
- German Federal Ministry of Education and Research
- Hessian Ministry of Economics
- German Institute for Standardization (DIN)
- German Federal Environmental Agency (UBA)
- German Federal Agency for Nature Conservation (BfN)
- Federal Ministry of Consumer Protection, Food and Agriculture

Contact

Darmstadt Office:

Prof. Dr. Martin Führ - sofia
University of Applied Sciences
Haardtring 100
D-64295 Darmstadt/Germany
Phone +49(0)6151-16-8734/35/31
Fax +49(0)6151-16-8925
fuehr@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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NATUUR
& MILIEU



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.

elni Board of Directors

- Martin Führ - Society for Institutional Analysis (sofia), Darmstadt, Germany;
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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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