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CONTENTS

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

Julian Schenten, Martin Führ and Leonie Lennartz

1 Introduction

Companies producing or importing articles[1] (or parts thereof) as well as retailers are facing new challenges coming from societal demands and expectations directed at transparency of (problematic) substances[2] in articles (SiA), and the overall "sustainability" of supply chain operations.[3] Legislation on chemicals in the EU (e.g., REACH) and beyond stipulating legal SiA requirements reflect these developments. In addition, with a view to eliminating problematic substances in material circles, the recently amended[4] Waste Framework Directive requires, from January 2021 on, companies placing articles on the European Economic Area (EEA) market to report to authorities the presence of substances of very high concern (SVHC) above a certain threshold in such articles. Council Conclusions of June 2018 emphasising "the need for information on substances of concern for all actors and to ensure at the latest by 2030 the traceability of substances of concern in materials, including those in imported articles, through the entire supply chain, including end-of-life operations"[5] raise expectations of related future regulatory developments. Chemical compliance management is not part of the core business for many companies. Many actors perceive related challenges as an overwhelming task. IT-based solutions offer opportunities to establish a systematic approach to transparency and traceability of SiA within complex global supply chains. In order to "be prepared" for future legislation, the long-term vision of a Full Material Declaration (FMD) is a promising approach. FMD implies the creation of a bill of materials (BOM) of an article with which all supply chain actors can determine the substances present in supplied articles. This way, firms can meet their present requirements from law as well as from sectoral or company specifications, and can prepare for future requirements. Section 2 compares supply chain communication requirements and needs on the one hand and actual practice on the other in order to subsequently identify the respective delta. Section 3 introduces FMD as a strategy to overcome the delta and shows development perspectives for existing approaches. Finally, Section 4, after drawing conclusions, formulates recommendations for EU policies.[6]

2 Challenges

Supply chain actors are facing legal requirements (Section 2.1) triggering information needs (Section 2.2). Taking into account the status quo in supply chain communication (Section 2.3) a "delta" between the needs and the actual performance is identified (Section 2.4).

2.1 Normative objectives and legal requirements

Various regulations in and beyond Europe govern SiA related aspects. In particular, the EU REACH Regulation[7] introduced different legal mechanisms regarding substances of very high concern (SVHC) in articles. According to REACH Art. 7(2), producers and importers of articles have to notify the European Chemicals Agency (ECHA) of articles in which SVHC are present in quantities totalling over one tonne per producer or importer per year and where these SVHC are present in those articles above a concentration of 0,1 % weight by weight (w/w). In addition, presence of SVHC triggers information requirements along the supply chain and, on request, to consumers. Within the article supply chain, pursuant to REACH Art. 33(1) suppliers of articles containing SVHC above 0.1 % w/w must provide the recipients with sufficient information available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance. According to Art. 33(2) that same information has to be provided to a consumer upon

1 In accordance with REACH Art. 3(3), an "article" means an object, which during production is given a special shape, surface or design, which determines its function to a greater degree than does its chemical composition. Chemicals and mixtures thereof, such as cosmetics or household detergents, are thus not covered by the article definition and neither is food. All other physical products do fall within its scope.

2 In this piece, problematic substance means a chemical substance with intrinsic properties that may cause damage to human health and/or the environment. SVHCs fall under the term as well as substances classified as "hazardous" according to the CLP Regulation, cf. Regulation (EC) No 1272/2008, 2008 OJ L 353/1.

3 Führ and Schenten 2019, Supply chain communication, in Leal Filho et al. (eds.), Encyclopedia of the UN Sustainable Development Goals, Responsible Consumption and Production (SDG 12), Springer.

4 This amendment being one result of the Circular Economy Package, cf. COM(2018) 32.

5 Council of the EU conclusions 10447/18, 11.

6 The authors would like to thank Carsten Dietsche for his valuable input from a practitioner's perspective. This paper also draws on research done in the context of the Project LIFE AskREACH (No. LIFE16 GIE/DE/000738), which is funded by the LIFE Programme of the European Union, cf. www.askreach.eu.

7 Regulation (EC) No 1907/2006, 2006 OJ L 396/1.

request. SVHC are legally defined by REACH Art. 57 and identified by public authorities in a formalized procedure set out in REACH Art. 58. SVHC include substances, which are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative (PBT/vPvB), substances that are carcinogenic, germ cell mutagenic or toxic to the reproductive system (CMR) and substances with properties of equivalent concern, e.g. endocrine disrupters (ED) or respiratory sensitizers.[8] Due to their problematic properties, SVHC may cause damage to human health, wildlife or the functioning of ecosystems. The group of PBT/vPvB substances are of particular concern for the environment because they persist and accumulate in certain environmental compartments and along the food chain. This also leads to considerable exposure of humans to SVHC with potential adverse health effects. The SVHC (legal) status of a substance becomes effective upon publication online.[9] In 2008, ECHA added the first 15 entries to that list. By January 2019, it had grown to 197 substances. By 2020 several hundred substances are expected to be on the list according to the SVHC Roadmap.[10] Regarding the point of reference for the 0.1% threshold, the European Court of Justice decided in September 2015 in favour of the 'once an article always an article' (O5A) approach,[11] according to which the 0,1 % threshold applies to each article of a complex object made up of more than one article, which were joined or assembled together.[12] In addition, the motivation behind the recently amended EU WFD[13] is to reduce the content of hazardous substances in materials and products, as well as in recycled materials: new obligations regarding SiA arise for EU Member States and the European Chemicals Agency (ECHA), which has the task to create a database to collect and provide information about articles that contain substances of very high concern (SVHC) above 0.1% by weight. When transposing the Directive into national legislation, Member States have to "ensure that any supplier of an article" (as defined by REACH) provides the information on SVHCs in articles to ECHA from 5 January 2021.[14] The scope of the requirements refers to REACH Art. 33, which stipulates that identical data should already be provided to every downstream "recipient of the article" since 2008.[15] This new reporting mechanism under the WFD concerns all articles supplied on the European Economic Area (EEA) market. It is one

Beyond SVHC-related rules, REACH stipulates specific restrictions (substance use bans, partly linked to thresholds). Likewise, product law[16] provides product-specific rules (certain substances must not be present, e.g., above certain thresholds)[17] and perhaps procedural aspects to ensure compliance (analytical methods of chemical testing). Additional rules relevant for substances in articles follow from global treaties (PIC, POP and Minamata Conventions) or are effective in other jurisdictions.

However, few of the mentioned legal acts foresee "cooperation between producers and recyclers" (e.g. Art. 4 WEEE). For economic operators under RoHS, the standard EN 50581 provides guidance on *how* to organise communication along the supply chain and how to document related activities and data to ensure compliance. Besides, the Korean Ministry of Environment proposed on 3 May 2018 a mandatory system for tracking chemicals including mixtures under its Chemicals Control Act. This system is meant to trace substances along their supply chain including downstream uses, apparently also in articles.[18] Documentation is pivotal with a view to avoiding product liability. One fundamental principle of EU private law is that producers are liable for damage caused by a defect in their products, whereas in this respect all "movables" including consumer products, chemical substances as such and all materials supplied in the supply chains are covered by the product term.[19] The

8 Many of the substances identified as SVHC due to their CMR/ED properties are also covered by the labelling obligations under the so-called 'Proposition 65' (Safe Drinking Water and Toxic Enforcement Act of 1986) in California.

9 Cf. https://echa.europa.eu/de/candidate-list-table.

10 ECHA 2013, SVHC Roadmap to 2020 Implementation Plan; Ref. ECHA-13-R-11-EN, Helsinki echa.europa.eu/documents/10162/19126370/svhc_roadmap_implementation_plan_en.pdf (14.11.2018).

11 ECJ, Case 106/14 FCD and FMB v Ministre de l'Écologie, du Développement durable et de l'Énergie, ECLI:EU:C:2015:576, para 50.

12 ECHA 2017, Guidance on requirements for substances in articles, Vers. 4, ECHA-17-G-19-EN, Helsinki, https://echa.europa.eu/documents/10162/23036412/articles_en.pdf (12.11.2018), p. 27. In addition, the packaging used for transport and presentation of an article is considered as a separate article under REACH and is therefore separately subject to all article related provisions.

13 Directive 2008/98/EC on waste 2008 OJ L 312/3, amended by Directive (EU) 2018/851, 2018 OJ L 150/109.

14 Führ 2018, The modern Augean stable. Cleaning up and detoxing product-related industrial material flows, https://chemicalwatch.com/72672/the-modern-augean-stable (19.12.2018).

15 Führ 2018, *supra* note 18.

16 E.g., Directive 2011/65/EU (RoHS), Art. 15 of Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), Directive 2009/48/EC on the safety of toys.

17 In addition, Directive 2001/95/EG on general product safety, 2002 OJ L 11/4, (GPSD) generally prescribes product "safety".

18 OECD 2018: Outline of a Focus Session on Information Systems on Chemicals in Products to Facilitate Risk Management. 58th Joint Meeting of the Chemicals Committee and the Working Party on Chemicals, Pesticides and Biotechnology, 1. October, ENV/JM(2018)32.

19 Articles 1, 2 Directive 85/374/EEC on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, 1985 OJ L 210/29 amended by Directive 1999/34/EC, 1999 OJ L 141/20.

respective EU directive obliges Member States to establish a comprehensive and strict basis for liability claims relevant for all activities in the substance supply chain in cases where a product "does not provide the safety which a person is entitled to expect" and is therefore defective.[20] If defects can be attributed to a violation of a company management's due diligence, even cases of personal liability could be established.[21]

2.2 Information needs

Article suppliers are obliged to ensure that their products at least comply with the existing regulation. They must know the extent to which regulated substances are included in their articles, taking into account the O5A approach. In addition, supply chain practitioners consider information on the presence/absence of substances that may be regulated in the future highly useful.[22] Indeed, a mere focus on regulated substances does not support proactive companies. Companies need not only to ensure compliance today, but must also prepare to be compliant tomorrow; not least due to the increasing velocity of regulatory developments (e.g. SVHC list update twice a year). This was also among the main findings of an empirical case study on the textile sector, searching for strategies for how to avoid problematic substances in the global textile chains.[23] Companies interested in gaining control over the SiA related supply chain operations – and in creating related market opportunities – have a particular need for SiA information regarding the regulated substances of tomorrow. In addition, from a circular economy perspective, traceability of problematic substances in articles is pivotal to prevent "risk cycling",[24] i.e., only materials in an end-of-life article that do not contain (certain) problematic substances (to a certain extent) should be allowed to re-enter the material cycles.[25]

2.3 Supply chain communication on SiA in practice

Supply chains are usually a very complex managerial object, not least since they are often stretched across various continents: In order to capitalize on cost differences most companies locate their production processes at places with low costs, e.g., due to less developed legislation on environment, occupational health and safety or worker rights in general, or due to enforcement deficits.[26] In addition, short-term supplier agreements imply a high volatility for the actors involved. Hence, usually, supply chains cannot be understood as a one-dimensional chain of suppliers but rather must be seen as an, at least partly, three-dimensional actor network, e.g., when for the same end product (e.g., a car) components are used which were produced in different batches by different suppliers and subject to specific conditions in terms of input materials and manufacturing processes.

With complexity transparency of all supply chain actors decreases and so too traceability in terms of SiA. In a common constellation, article suppliers situated in the EU are sourcing articles from third countries. They have direct contact with the importer abroad who as "tier one" often assembles the article, thus merging contributions from other supply chain actors. The EU-based suppliers do not know those other actors, as the tier 1 seeks not to disclose such contacts.

Another quite common constellation is that EU-based suppliers are in a weak position when they request information from their suppliers, as orders from only a single customer usually correspond to a rather small share of the supplier's overall trading volume. Regarding the trading volumes one must also consider that often suppliers provide products – and therefore sit at the interface between many sectors (e.g., textile for fashion and automotive or electronic articles intended for different sectors).

Requesting SiA information from suppliers may thus pose major challenges, notably for SME, but also large multinationals can struggle. Challenges increase if information is requested that goes beyond the legal minimum. Companies compile lists of substances relevant for their business prescribing use conditions or bans for their suppliers. Restricted substance lists (RSL) that define rules on substances in articles are most common. Manufacturing restricted substance lists (MRSL) define rules on the substances used in production processes (input stream management), an approach put forth by the

20 Article 6 GPSD.

21 Schenten, Führ and Bizer 2017, Overcoming Nanomaterial Uncertainties: A Responsive Governance Framework, in v. Matthis (ed.): Economic Analysis of Law in European Legal Scholarship (Vol. 4), Springer.

22 Reihlen and Halliday 2017, Scientific and technical support for collecting information on and reviewing available tools to track hazardous substances in articles with a view to improve the implementation and enforcement of Article 33 of REACH, prepared for DG Environment (Sustainable Chemicals), Luxembourg.

23 Kleihauer, Führ and Schenten, 2019, Marktchancen für "nachhaltigere Chemie" durch die REACH-Verordnung. Sustainable Sporting Goods – SuSport, sofia Studien zur Institutionenanalyse, Darmstadt.

24 Lahl and Zeschmar-Lahl 2013, Risk based management of chemicals and products in a circular economy at a global scale (risk cycle), extended producer responsibility and EU legislation. Environmental Sciences Europe 2013 25:3. https://doi.org/10.1186/2190-4715-25-3.

25 Cf. Bernard, Chemicals in material cycles: how EU law needs adjustments for the transition to an environmentally beneficial circular economy, elni 2017(2), 54.

26 While so-called offshoring is "far from petering out", in the last decade a counter trend has emerged often referred to as reshoring or backshoring, cf. Di Mauro et al., Offshoring and backshoring: A multiple case study analysis, Journal of Purchasing and Supply Management 2018 (Vol. 24), pp. 108-134.

Zero Discharge of Hazardous Chemicals (ZDHC) initiative in textiles[27] but also used in e.g., aerospace. These lists focus on regulated substances to ensure compliance. However, some companies mostly with higher demand volumes go beyond legal requirements, e.g. by prescribing specific thresholds for all substances meeting the criteria laid down in REACH Art. 57, regardless of their being identified as SVHC.[28] Suppliers usually provide general statements of conformity (e.g., "legal requirements are met") regarding the (M)RSL rather than information on actual substances. Information on the specific location of a substance in an article is not routinely exchanged.[29] Regarding REACH Art. 33(1) ECHA observes "clear indications that the information on substances is not adequately communicated in the article supply chains."[30] The European Commission concludes that it "remains difficult for actors in the supply chain to retrieve, verify and communicate information on SVHCs in articles".[31] Article suppliers refrain from responding and providing SiA information due to different reasons, such as that they

- lack the data they should supply themselves;
- are not aware of (all) legal obligations on SiA;
- lack resources to collect data and provide it;
- hesitate to provide information because they perceive it as confidential.[32]

Request overload is another impediment, closely related to a lack of resources. Apart from a few available sector standards,[33] companies tend to create their own (M)RSLs,[34] thus contributing to the proliferation of SiA requests to suppliers. As for data quality and reliability, information provided in compliance declarations is too scarce to check even plausibility.[35] In fact, to verify compliance companies do excessive testing, e.g., risk-based testing of materials in every article (e.g., phthalates in plastics). For instance, Nike in 2015 carried out almost 500,000 chemical tests in its supply chains to make sure articles do not contain restricted substances.[36] Another challenge is how companies collect and manage the data required for documenting and reporting SiA information activities. Most companies use basic approaches such as excel spreadsheets in this respect, the handling of which may cause a significant workload.[37]

2.4 Delta Analysis

The outlined challenges companies are facing indicate certain information needs. Measured by those needs, the following delta can be observed:

- Suppliers generally do not possess adequate knowledge regarding problematic substances in their articles; thus they refrain from providing the needed information to downstream actors or consumers.
- At best, information on (usually: non-presence of) regulated substances is provided (negative reporting).
- Information provided is often too scarce to even check plausibility.[38]
- Excessive chemical testing is needed to ensure compliance and avoid related liability risks.
- Many companies still have no IT solutions or inefficient ones to collect SiA information, although IT solutions have the potential to manage risks and obligations with a more cost and time effective approach.

Suppliers may report declarations of conformity regarding certain substances regulated such as SVHC, perhaps supported by chemical testing. Presuming the accuracy of such statements, they ensure compliance with respect to specific substances. However, such declarations refer to the product properties upon the date of delivery and thus refer only to the substances listed on a RSL or e.g., on the SVHC list by this date. It follows that with every new identification of SVHC the compliance declaration is outdated. An additional declaration, probably accompanied by chemical testing and

27 ZDHC 2015, Manufacturing Restricted Substances List Version 1.1, https://www.roadmaptozero.com/fileadmin/pdf/MRSL_v1_1.pdf (12.11.2018).

28 H&M 2017, Restricted Substance List - Apparel |Accessories | Footwear | Home Interior Textile Products, Valid for all brands in H&M group, http://sustainability.hm.com/content/dam/hm/about/documents/masterlanguage/CSR/Policies/HM%20Chemical%20Restrictions%202017_Apparel_Accessories_Footwear_Home%20Interior%20Textile%20Products.pdf (31.10.2018).

29 Reihlen and Halliday 2017, supra note 26.

30 ECHA, Report on the Operation of REACH and CLP 2016, Ref. ECHA-16-R-08-EN, pp. 136, 13: "The current legal requirement for information on substances in articles is not working well enough. A fundamental review of these obligations would be helpful and could usefully form part of work on the circular economy and the drive towards a non-toxic environment."

31 SWD(2018) 58 final, part 1, 30.

32 Reihlen and Halliday 2017, supra note 26.

33 E.g., ZDHC MRSL.

34 In fact, even in sectors where standards are established, companies tend to add their "individual" substances to the list, as this might reflect requirements of specific markets and / or to yield competitive advantages. For instance, in automotive one RSL (GADSL) is shared by all OEM, which each put certain substances on top.

35 Reihlen and Halliday 2017, supra note 26.

36 See https://chemicalwatch.com/47800/nike-supply-chain-carried-out-almost-500000-chemical-tests-in-2015 (14.11.2018).

37 E.g., Chemical Watch 2018, Chemicals Management Software Guide, 2nd ed., p. 11, https://chemicalwatch.com/software-guide (9.1.2019) refers to a company that reported having received 40,000 requests for information in Excel or Word in just eight months.

38 In cases where information is lacking, companies rely on internal expert judgement, sometimes following specific rules, cf. e.g. for the automobile sector ACEA et al., Automotive Industry Guidance of REACH V. 4.0, p. 34, https://www.acea.be/uploads/publications/AIG-4.0_English.pdf (14.1.2019).

taking into account the newly added substances is then required. In addition, from the circular economy perspective, presuming declarations are communicated to recyclers after all,[39] enormous uncertainties as to the toxic load of end-of-life articles still would remain. In general, mere negative reporting thus deprives recyclers of their possibilities to bring materials from end-of-life articles back into the material streams. Knowing in contrast which substances are present in articles would allow companies to control compliance of their products also in terms of future regulations and would at the same time satisfy the needs of circular economy. In an overall perspective, Full Material Declaration (FMD) is a prerequisite to gain manageability in terms of adequately identifying and controlling substance-related risks linked to the articles in a company's portfolio.

3 IT based solutions

In order to ensure compliance with existing legislation as well as to "be prepared" for future legislation, Full Material Declaration (FMD) is a promising approach (Section 3.1), which is operationalised by specific tools (Section 3.2). Options to render the approach even more effective are briefly introduced (Section 3.3).

3.1 Full Material Declaration

There is no standard definition for FMD. In this piece, it means the full declaration of materials used in the making of supplied (part) articles down to basic substance level. This approach is applied to all substances present in the articles in their respective physical and chemical states upon delivery. FMD applies within the professional supply chain.[40] With this degree of traceability, companies can ensure to be compliant today and tomorrow concerning future requirements. Tools providing for FMD are based on material data systems (MDS). In the MDS, suppliers report data on their materials. Material is usually a generic term applicable to articles, mixtures and substances in terms of REACH.[41] The purpose of the MDS is to generate a structure tree of all materials present in a certain final article (Bill of materials – BOM) subject to reporting, which is usually a complex object (incorporating more than one individual article). The structure follows the different stages in the production process of an article (traceability), e.g., from semi-finished article (e.g., plastic sheet), further processed component (e.g., machining, coating), to incorporation in the final article.

At the same time, tools must take into account confidential business information, including business relations. Some MDS thus combine different approaches to reporting:

- As a general rule all suppliers must report all substances present in articles (FMD).
- At the same time, suppliers may make use of "wild cards", i.e., a certain share (e.g., per weight) of substances per article must not to be disclosed. However, the "wild card" function is not available for substances included on a specific RSL42 acknowledged by the tool. Thus, in any case, suppliers must report substances that are contained in the RSL.

Data systems based on FMD can be efficient tools to communicate on substances in articles along the supply chains, as users can

- ensure compliance with existing SiA legislation (taking into account the O5A ruling of the ECJ), inter alia facilitating answers to REACH Art. 33(2) requests by consumers
- prepare in case of regulatory developments to be compliant in future,
- better control product liability risks due to FMD documentation,
- proactively manage chemicals used in supply chains to further reduce company risk,
- facilitate the material classifications needed for recycling,
- reduce needs of risk-based testing as transparency facilitates supplier evaluation, and
- benefit from the reporting standard shared with other sectors or companies as this increases suppliers' willingness to provide data.

However, whether or not a meaningful BOM is created capable of yielding all those listed benefits depends strongly on the tool-specific implementation of FMD, of the (sector) standard and RSL applied in this respect.

3.2 Challenges

Many available tools (claim to) support FMD – however, as there is no standard definition for the term, the actual performance depends on the tool-specific operationalization of FMD. MDS tools usually support sector-specific standards, notably IPC 1752A and IEC 62474 for electronic components in general, or the new IPC 1754

39 Which is rather doubtful, cf. Bernard *supra* note 29.

40 In contrast, the concept of Full Material Disclosure put forward e.g. by NGO advocates a public disclosure of (parts of) the data subject to Full Material Declaration.

41 Cf. the legal definitions in REACH Art. 3(1), (2) and (3).

42 The RSL should be updated in line with legal changes, *i.a.* biannually at least to reflect updates of the REACH Candidate List for SVHC.

"Material Declaration Standard for Aerospace and Defense". Standards define e.g., reporting rules and lists of declarable substances. As regards SVHC coverage, for instance, IEC 62474 covers exclusively SVHC that have applications in the electrical engineering and electronics industry.[43] IPC 1752A in contrast supports the full SVHC list. It follows that two BOMs for the same article created under IPC 1752A, or IEC 62474 respectively, may differ in that under one BOM a substance is reportable as SVHC while under the other the same substance is not reportable, and thus perhaps hidden. The extent to which material data systems based on FMD yield SiA-related benefits for users thus may depend on the standard used to compile the BOM.

Additionally, the MDS differ in their ability to combine different sources of information. Some systems enable users to complement their material data with common materials as published in international standards for metal alloys. This allows the users to create material data from in-house and from external sources to show very complex articles. These can be assessed with a "where used" analysis to determine whether they contain problematic substances such as SVHC. Besides, these standards, while defining a (limited) range of reportable substances, do not define all (other) substances. Rather, MDS tools such as IMDS used in the automotive sector[44] add to the reporting system's comprehensive databases for all substances. Hence, a BOM created in one tool need not necessarily be identical with a BOM for the same article created in another tool B, as there may be differences in the substance databases. These differences are a major source of struggles regarding data exchange between different tools. In addition, some standards use, as a reference point for the reporting obligations, homogenous materials as established e.g., in the RoHS Directive. Art. 3(20). RoHS defines a homogenous material as one material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed or separated into different materials by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes".[45] In contrast, pursuant to REACH Art. 3(3) the term articles "means an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition".

Hence, due to the different rationales, reporting on homogenous material levels may not automatically apply to articles in the REACH context, which needs to be taken into account in any REACH compliance efforts. With a view to the practical implementation of FMD, it needs to be emphasized that only the material producers can ensure that materials are properly reported once they enter the supply chain for the first time, as only they know the chemical composition. Barriers for suppliers to cooperate should thus be as low as possible (cf. the next section). Moreover, in order to avoid a huge collection of obsolete material data, "change management" is key. Thus, the challenge for industries is to keep any database updated over time, reflecting changed article material composition due to e.g., engineering changes.

3.3 Perspectives

The possibility of easy and quick information transfer between different tools appears essential to increase the efficiency of communication and thereby the acceptance of such tools. Thus a common data structure and exchange format is recommended, ideally agreed upon at global level.[46] In fact, the inter-sectoral "Proactive Alliance", initiated in 2018, sets out to define recommendations for a global cross-sector standard for communicating SiA information, which also supports FMD and takes into account the O5A-principle for articles in terms of REACH.[47] The group gathers representatives from automotive, chemicals, furniture, childcare products, electrical and electronic, mechanical, metalworking and metal articles, home textiles, textiles and sporting goods and medical devices. It acknowledges that FMD is already being used by some parts of industry where it is seen as the most efficient vehicle to achieve compliance – and goes beyond.

4 Conclusions and Recommendations

Companies face increasing SiA-related legal requirements as well as new sectoral, contractual or general societal demands concentrating more and more on the "sustainability" of supply chain operations. Companies however struggle to meet

43 ZVEI 2015, Material Declarations Within the Supply Chain. Guideline, https://www.zvei.org/fileadmin/user_upload/Presse_und_Medien/Publikationen/2015/februar/Material_Declarations_Within_the_Supply_Chain/Leitfaden_Materialdeklaration_engl.pdf, Frankfurt (12.11.2018).

44 Cf. www.mdsystem.com (9.1.2019).

45 Note that back in 2009 there were Chinese interpretations that any component below the size of 4 mm^2 is considered to be "homogeneous". Such a specification was never formalized in electrotechnical standards such as IEC 62474 or in legal texts. However, it can still be found among suppliers as their internal definition of "homogeneous materials". To avoid any misunderstanding, the definition of "homogeneous materials" according to RoHS Art. 3(20) should be added to companies' supplier contracts and related documents, cf. Frimann 2009, Electronic Components Meeting Homogeneous Requirements, http://thor.inemi.org/webdownload/newsroom/Presentations/Global_ICT_Env_Oct09/Frimann.pdf (14.1.2019).

46 Reihlen and Halliday 2017, supra note 26.

47 See https://chemicalwatch.com/67695/cross-sector-initiative-sets-full-materials-disclosure-goal (4.7.2018).

these requirements and expectations. Compliance declarations, assuming that they are reliable, only relate to existing law. However, they are not future-proof in the case of new risk identification data or the adoption of new legislation applicable to the article in question. Common approaches of negative reporting are thus not (cost-) efficient in terms of ensuring compliance. Additionally, they provide only limited insight to recyclers regarding the possibilities of taking materials from end-of-life articles back into the material streams. Knowing in contrast which substances are present in articles allows companies to adequately address the substance-related risks and address product quality and liability issues. It is also a precondition to control compliance of their products also in terms of future regulations and would at the same time satisfy the information needs of a circular economy. Data systems based on FMD can be efficient tools to communicate on substances in articles along the supply chains. However, whether or not a meaningful BOM is created capable of yielding all potential benefits depends strongly on the tool-specific implementation of FMD, of the (sector) standard and RSL applied in this respect. Furthermore, there need to be effective incentives for suppliers to cooperate. EU policies should encourage the development of (inter-)sectoral solutions which support proactive companies heading for meaningful FMD and at the same time support companies with limited capabilities in this respect. In addition, proliferation of sector requirements could be reduced, and suppliers' willingness to cooperate in turn increased, if sectoral approaches were interoperable and data easily interchangeable. In this respect, understanding the capabilities and limitations of communication standards applied by different sectors, and thus also by tools providing IT solutions for such sectors, is pivotal. A "Proactive Alliance" of different industry representatives initiated in 2018 therefore aims to formulate policy recommendations on cross-sector standard design with a global scope.

Substitution requires all possible support

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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 REACH[2] 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 2017[3] 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 projects[4] 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 provide[5], 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-lifefit-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 incompliant 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 process[6] 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 Directive[7] 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 Directive[8] 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 Directive[9] 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 studies[10] 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

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.

considerable step forward, not only for understanding the impacts of chemicals but also 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,

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.

as this usually impacts the information availability on the chemical composition,
- the functionality of the hazardous substances addressed and the availability of suitable alternatives,
- 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 product[12]. 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 Index[13] 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

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

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.

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 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 14 000[16], 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

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

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 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 exchange[17], 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

17 See for example the „proactive alliance".

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 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.

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.

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.

EU Emissions into the environment and confidentiality - Comment on General Court, case T-545/11 RENV of 21 November 2018

Ludwig Krämer

The judgment in case T-545/11 RENV discusses once more the question, what constitutes an emission into the environment. This is of importance for environmental law, as the principle of transparency gives everybody the right to know, what "emissions, discharges and other releases"[1] are put into the environment. This principle of transparency sometimes enters into conflict with the wish of economic operators – and public authorities – to keep information on emissions confidential.

The case which led to the judgment in case T-545/11 RENV started in 2010, when two environmental organizations, Greenpeace and Pesticide Action Network Europe (PAN), wanted to know the impurities of the substance glyphosate. Glyphosate is an active substance used in pesticides (herbicides). It was developed and patented by Monsanto company; the patent expired in the year 2000.

Present pesticide2 legislation in the EU provides that an active substance of pesticides be approved by the EU. Further, pesticide products, which may only contain active substances that have previously been approved by the EU, are then authorized by the Member States.

Greenpeace and PAN addressed the European Commission, where requests had been submitted at the end of 1998 to include glyphosate in the list of approved active substances for pesticides, together with documentation to justify such an inclusion. Germany was asked to examine the application. Its review report of 1999 led to the Commission decision of 2001 which included glyphosate in the list of active substances for pesticides3. The degree of purity was specified at "950g/kg"[4], meaning that the impurities were tolerated up to 50 g/kg (5 per cent).

Greenpeace and PAN asked for access to several documents of the authorizing file. After several discussions with the Commission, they clarified that they wanted to know the degree of purity of glyphosate, the identity and quantity of all the impurities and the exact composition of glyphosate. The General Court granted access upon this request.5 On appeal by the Commission, the Court of Justice set this judgment aside6, arguing that the General Court had not differentiated clearly enough between the terms "access to environmental information" which allowed the public authorities to weigh any such request against the interests of economic operators to determine the commercial interests and intellectual property protected, and the term "emissions into the environment" which prevailed over the interests of economic operators[7].

Case T-545/11 RENV constitutes the new decision by the General Court in this matter[8]. The General Court now holds that information on the impurities of glyphosate "does not relate to emissions whose release into the environment is foreseeable"[9]. A competitor of the producer could deduce from the impurities the production method of glyphosate; this would lead to market share losses and an impairment of the intellectual property, impairing the commercial interests of the original glyphosate producer. Therefore the interests of the applicants to keep the exact composition of glyphosate and in particular the kind and quantity of impurities confidential prevail over the interest of the applicants to know the exact composition, including the impurities, of glyphosate.

First, the procedure before the European Courts has to be discussed. The judgment in case T-545/11 was issued by the Second Chamber of the General Court, and the judgment in case T-545/11 RENV by the Fourth Chamber. However, according to the heading of the two judgments, in both cases Judge Juraj Schwarcz acted as the rapporteur. The Statute of the Court of Justice of the EU, which also applies to the General Court, provides in this regard in Article 18: "No judge...may take part in the disposal of any case … in which he has been called upon to pronounce as

1 This is the term used in Directive 2003/4 on public access to environmental information, OJ 2003, L41 p. 26, Article 2(1)(b), and Regulation 1367/2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters to Community institutions and bodies, OJ 2006, L 264 p. 13, Article 2(1)(d)(ii).

2 The terms "pesticide" and "plant protection product" are used interchangeably in EU law, see for example Regulation 1107/2009 on plant protection products, OJ 2009, L 309 p. 1 and Directive 2009/128 on the sustainable use of pesticides, OJ 2009, L 309 p. 71. Both legal acts were adopted on the same day.

3 Commission Directive 2001/99, OJ 2001, L 304 p. 14.

4 *Ibidem*, Annex. This specification was followed by the note: "Further details on identity and specifications of active substances are provided in the review report". The review report was not made public, though.

5 General Court case T-545/11, Greenpeace and PAN v. Commission, ECLI:EU:T:2013.523.

6 Court of Justice case C-673/13P, Commission v. Greenpeace and PAN, ECLI:EU:C:2016:889.

7 See case C-673/13 L. Krämer, Emissions into the environment and disclosure of information. Comments on ECJ C-442/14 and C-673/13P. elni-Review 2017, n. 1 p. 25. B. Wegener, "Kein Mund auf - Augen zu" - der freie Zugang zu Informationen über Emissionen in die Umwelt, Zeitschrift für Umweltrecht 2017, p. 146.

8 General Court, case T-545/11 RENV, ECLI:EU:T:2018:817.

9 *Ibidem*, paragraph 90.

a member of a court or tribunal"[10]. This means that Judge Schwarcz unduly acted as a judge in the second case. This judgment is thus defective and must, should the applicants appeal, be dismissed by the Court of Justice.

The substantive question turns once more to the problem of the term "emissions into the environment". A closer examination of this term is important to understand the reasoning of the General Court and the problem which this reasoning raises.

The Aarhus Convention which was ratified by the EU[11] and is thus part of EU law[12] indicates that public authorities may refuse access to environmental information concerning the confidentiality of commercial and industrial information, but that "information on emissions which is relevant for the protection of the environment shall be disclosed"[13]. The Convention does not include a definition of this term.

EU Regulation 1367/2006[14] which, according to its title, has the objective to transpose the provisions of the Aarhus Convention into EU law[15], includes in the definition of "environmental information" also "emissions, discharges and other releases into the environment"[16]. As regards the possibility for EU public authorities to refuse access to environmental information due to commercial interests or intellectual property, Article 6(1) of Regulation 1367/2006 states an irrefutable presumption in favour of disclosure: "an overriding public interest in disclosure shall be deemed to exist where the information requested relates to emissions into the environment".

The Court of Justice had already in the past had the opportunity to discuss the meaning of the term "emissions into the environment". In case C-442/14[17], a Dutch court posed some preliminary questions in a case between the company Bayer CropScience and an organization for the protection of bees. The NGO wanted access to information on the active substance imidacloprid which was contained in pesticides and biocides and which the NGO suspected to be harmful to bees. Bayer CropScience, which had obtained authorization from the Dutch authorities to put pesticides and biocides on the market which contained that substance, opposed the request, invoking its copyright and the fact that disclosure would adversely affect the confidentiality of its commercial and industrial information.

The Court of Justice held[18]: "although the placing of a product on the market alone is not sufficient in general to consider that that product must necessarily be released into the environment and that information concerning it relates to 'emissions into the environment', the situation is different as regards a product, such as a plant protection product or biocide, which is in the context of normal use, intended to be released into the environment under normal or realistic conditions of use of that product of substance". The term "information on emissions into the environment" covered, according to the Court, information concerning the nature, composition, quantity, date and place of the emission, as well as data concerning the medium to long-term consequences of such emissions. The Court concluded: "'*emissions into the environment' covers the release into the environment of products or substances such as plant protection products or biocides and substances contained in those products, to the extent that that release is actual or foreseeable under normal or realistic conditions of use*".

As can be seen, in case C-442/14 the issue of impurities of an active substance of a pesticide was not discussed. In the present case T-545/11, the first judgment of the General Court concluded that there was a sufficiently direct link between the information on the environment and the information on emissions into the environment. Therefore, the information on the impurities of glyphosate should be disclosed. On appeal, the Court of Justice held that this "sufficiently direct link" was too vague a formula and did not allow to clearly differentiate between "information on the environment" and information on emissions into the environment". Thus, it sent the case back to the General Court.

1 The judgment in case T-545/11 RENV

In its new judgment of 21 November 2018, the General Court found that the active substance glyphosate has only been released into the

10 Statute of the Court of Justice of the European Union, OJ 2008, C 115 p. 210.

11 Decision 2005/370, OJ 2004, L 124 p. 1. The Convention is reproduced in the annex to that decision.

12 Court of Justice, case C-240/09 Lesoochranárske zoskupenie, ECLI:EU:C:2011:125, paragraph 30: "the provisions of that convention [the Aarhus Convention] now form an integral part of the legal order of the European Union".

13 Aarhus Convention (fn. 11), Article 4(4)(d).

14 Regulation 1367/2006 (fn. 1, above).

15 This aspect was not considered by the Court of Justice in joined cases C-401/12P and C-403/12P, Council a.o. v. Milieudefensie and Stichting Stop Luchtverontreiniguíng Utrecht, ECLI:EU:C:2015:4, paragraphs 56ss, where the Court held that Article 9 of Regulation 1367/2006 could not be invoked by the NGOs, because that Article did not explicitly indicate that it meant to transpose the Aarhus Convention into EU law; in this author's opinion, in view of the title of Regulation 1367/2006, this was not necessary.

16 See fn. 1, above.

17 Court of Justice, case C-442/14, Bayer CropScience, ECLI:EU:C:2019:890.

18 The Court had to interpret not Regulation 1367/2006, but the corresponding provisions of Directive 2003/4 (fn. 1, above). However, the term "information on emissions into the environment" and the other provisional requirements of relevance for the present discussion are identical in Directive 2003/4 and Regulation 1367/2006.

environment in the form of a pesticide product, not as a pure substance. However, pesticide products are authorized by the EU Member States, whereas the European Union only authorizes the active substances in pesticide products. When a Member State was appointed, under EU law, to act as a rapporteur in order to assess a new active substance, it did not assess the impurities of that substance. Rather, such impurities were only assessed when a Member State was going to evaluate the pesticide as a whole in a later stage of the procedure[19]. This is due to the fact that the production methods of the pesticide products containing glyphosate are different in different regions or Member States. The General Court thus concluded that it is not foreseeable that the impurities of the active substance glyphosate will be released into the environment, but that such a release is – this must be deduced from its arguments- hypothetical. Hypothetical emissions into the environment, though, do not come under the notion "emissions into the environment", according to consistent case-law of the Court of Justice[20].

2 Emissions from an active substance – theoretical emissions?

However, the reasoning of the General Court is not correct. According to Article 4 of Regulation 1107/2009, the rapporteur Member State has to examine an application for authorization of an active substance according to Annex II to Regulation 1107/2009. Annex II no. 3.4.1 requires the additional examination of impurities in the active substance, in particular as regards toxicological, ecotoxicological or environmental concerns. And it follows from the requirement of Annex II no. 3.5.1 that any impurity which is present in the active substance "as manufactured", shall be assessed. The same conclusion follows from Annex II no. 3.6 to no. 3.8. According to these provisions, an active substance shall only be approved where it is not a mutagen, carcinogen, toxic for reproduction, where it is not a persistent organic pollutant, and where it has neither endocrine disrupting nor ecotoxicological adverse properties. As follows furthermore from no. 3.5.1, these approval conditions also apply to impurities. Indeed, it is not possible to believe that these conditions only apply to the pure active substance, but that the impurities – up to 50 g per kg – could also be carcinogenic, etc.

Thus, it is submitted that the General Court erred, when it found that Member States only assess the impurities of an active substance if they have to assess a pesticide product as a whole. Rather, the findings of the rapporteur Member State of an active substance on the substance are shared with all other Member States and the EU Commission and are the basis for the EU-wide approval of the active substance. Thus they must carefully assess all the conditions of the active substance when an application for an EU-approval according to Regulation 1107/2009 is submitted. This includes an assessment of the impurities, at least in cases where, as with glyphosate the impurities comprise more than 1g/kg of the weight of the active substance.

This result does not yet answer the question whether at the stage of the approval of the active substance, the assessment of the impurities is hypothetical. It is only at the stage of the approval of a pesticide product as a whole that it becomes relevant whether there are still impurities which may be released into the environment. This was the assumption of the General Court.

However, the General Court failed to discuss the consideration of impurities found in the active substance in the assessment of the pesticide product as a whole. It assumed that this was irrelevant, as the manufacturing process of the active substance may be very different[21]. In the opinion of the General Court, the assessment of the active substance and its impurities at EU level at the moment of approval is a "theoretical assessment"[22]. This led the General Court to conclude that the emissions into the environment which might emanate from an active substance and its impurities are hypothetical, as long as the active substance is not reassessed as part of a pesticide product as a whole.

The applicants' argument that the active substance is not, as such, considered a second time during the assessment of the pesticide product as a whole was pushed aside by the General Court. It repeated its argument that the assessment of the pesticide as a whole takes place at Member State, not EU level[23].

Until now, it seems that nobody has ever argued that the assessment of an active substance for later use in pesticide products at EU level was a theoretical assessment. After all, why must all the details for the assessment process of the active substance, laid down in Annex II to Regulation 1107/2009, have to be scrupulously respected when the assessment is only of theoretical value and without practical use? This would deprive all these detailed provisions of any useful effect. Why should Regulation 1107/2009

19 General Court, case T-545/11 RENV (fn.8, above), paragraph 88: "it is only at the stage of the national authorisation procedure to place a specific plant protection product on the market that the Member State assesses any emission into the environment... from the active substance".

20 See in particular Court of Justice, case C-442/14 (fn. 17, above).

21 General Court, case T-545/11 RENV (fn.8, above) paragraph 85.

22 *Ibidem*, paragraph 83.

23 *Ibidem*, paragraph 92.

require the detailed assessment of the active substance and its impurities if the Member States have to make this detailed assessment again? Rather, the detailed requirements of assessment suggest that the EU legislature considered it foreseeable and not only hypothetical that the active substance, including its impurities, would be released into the environment.

Several other arguments plead in favour of this understanding of the EU assessment procedure. The first is the requirement of Annex II, no. 3.5.1 to Regulation 1107/2009 which imposes this detailed assessment also of impurities exceeding 1g/kg of the active substance. This requirement indicates that the legislature quite clearly foresaw the release of the active substance into the environment, as it considered that there might also be risks for humans or the environment which stem from impurities exceeding quantities of 1g/kg or more.

Furthermore, the assessment of an active substance, including its impurities, at EU level attaches a great importance to its effects on the environment. This would be completely superfluous if the EU assessment were only of a theoretical nature, as then the evaluation of the effect of the active substance could be left to the assessment of the pesticide as a whole by the different Member States.

3 The approval of a pesticide product as a whole

The decisive argument comes, in this author's opinion, from a consideration of the provisions on the approval of a pesticide product as a whole which are laid down in Regulation 1107/2009, Articles 28ss. Article 28(a) determines: "No authorisation [of a pesticide product] shall be required in the following cases: (a) use of products containing exclusively one or more basic substances". The term "basic substances" is not defined in Regulation 1107/2009, which only defines "substances". In view of the context, "basic substances" must be synonymous with "active substances". This means that the appropriate Member State need not examine a pesticide product which exclusively contains one or more active substances. Such a provision makes sense, as the active substance or substances are already examined and approved at EU level, so that a second assessment would be unnecessary. Already this provision shows that the General Court's assumption that an active substance is always examined a second time during the approval procedure of a pesticide product, is wrong.

This is confirmed by Article 29 of Regulation 1107/2009 which contains the requirements for a Member State when a pesticide product as a whole shall be approved. Article 29(1)(a) requires the Member State to ensure that the active substance which is to be used for the pesticide had been approved by the EU. Article 29 (1)(b) to (i) contain a number of further requirements. Article 29(2) then requests that the Member State in question verify compliance with Article 29 (1)(b) and (e) to (i) by "official or officially recognized tests and analysis". The Member State thus does not have to test or analyze the active substance itself, as that substance is mentioned in Article 29(1)(a)! It may therefore assume, as regards the active substance, the results from the approval procedure of the active substance at EU level. Confirmation of this conclusion is found in the fact that Article 29 never refers to Annex II to Regulation 1107/2009, which according to its heading contains the detailed test requirements for active substances but not for pesticide products.

When an active substance is produced by a different manufacturer or by the original manufacturer with a change in the manufacturing process, the Member State which intends to approve the pesticide product as a whole must check whether the elements of the active substance "deviate significantly" from the elements that had previously been approved for the active substance at EU level (Article 29). The Member State in question has to establish this equivalence through tests and analyses. But there is no stipulation in Article 29 that the Member State has to repeat the whole approval procedure for the active substance in each case. This could at best be necessary when the active substance deviates significantly from the active substance that had been originally approved by the EU. In conclusion, the impact of an active substance and its impurities is normally assessed one time – at the moment of the approval of the active substance by the EU. There is no provision in Regulation 1107/2009 requiring the assessment of the active substance to be systematically repeated at the stage of approval of a pesticide product. The General Court let itself be persuaded by the Commission and the opposed vested industry representatives[24], without analyzing in detail Article 29 of Regulation 1107/2009.

4 Confidentiality and disclosure of environmental information

Article 63 of Regulation 1107/2009 stipulates that information on the impurities of an active substance which are considered to be toxicologically, ecotoxicologically or environmentally relevant, may normally not be kept confidential. It further indicates that this provision is without prejudice to the provisions on right of access to environmental

24 See case T-545/11 RENV, paragraph 92: "... as noted by the Commission, Cefic and ECPA". Cefic is the EU umbrella organization of the chemical industry; ECPA is the Association Européenne de la Protection des Cultures.

information[25]. Article 63 thus expresses the clear opinion of the EU legislature that impurities of an active substance are foreseeably emitted into the environment. The methods of manufacturing for a pesticide product and also for an active substance such as glyphosate may differ. Thus it is possible that the impurities of glyphosate which existed at the moment when the EU approval of glyphosate was requested disappeared during the manufacturing process of the pesticide as a whole. However, this is a theoretical consideration. The Member State which looks at the approval of a pesticide product containing glyphosate need only examine whether the glyphosate contained in the pesticide product deviates significantly from the glyphosate that had been approved at EU level, including its impurities. Normally, no reassessment of glyphosate or its impurities has to be made. During the Court procedure, the European Commission had argued that disclosure of the content, composition, etc. of the impurities would reveal the manufacturing process and would thus harm the commercial interests of the glyphosate manufacturer as well as his intellectual property. The General Court followed this reasoning. As it considered the presumption of Article 6 of Regulation 1367/2006, quoted above, to be inapplicable, it limited itself to weighing the interests of confidentiality of the EU applicant of the glyphosate substance against the interest of the public in disclosure. Without discussing Article 63 of Regulation 1107/2009, it concluded that the Commission had weighed the different arguments correctly. In this author's opinion, Article 63, in particular its paragraph 3, clearly indicates that the interests of the public in disclosure of information on the environment prevail over the economic interests of the manufacturer of an active substance. This is in particular true when the protection of the intellectual property has already elapsed; this was the case for glyphosate, where the patent ended in 2000, while the request for disclosure was introduced in 2010. Even when it concluded that the information on impurities of the active substance glyphosate only regards a theoretical and not a foreseeable emission into the environment, the General Court should have granted access to the information on the impurities. Its judgment is a regrettable attempt to let economic interests prevail over the right of the public to be informed on releases into the environment.

In conclusion: Contrary to the General Court

(1) Information on impurities of the active substance glyphosate is information about foreseeable, not only theoretical emissions into the environment;

(2) The interests of the public to access information on the nature, composition and quantity of glyphosate impurities disclosed prevail over the commercial or industrial interests and intellectual property rights of the glyphosate manufacturer, who had asked for the authorization of glyphosate at EU level in 1999, in precluding the disclosure of such information.

25 Article 63 only refers to Directive 2003/4 on public access to environmental information at the level of Member States (fn. 1, above). However, as the provisions concerning access to environmental information at EU level, as laid down in Regulation 1367/2006 for the EU-level, are substantially equivalent, Article 63 is also applicable to requests for access to environmental information which are addressed at an EU institution.

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

Delphine Misonne

1 Introduction

"Google fined €4.34bn by EU over Android antitrust violations"[1]. June 2018: the European Commission imposes a record penalty, after a 39-month investigation into Google's Android operating system. This worldwide level news confirms the power of the European Union and its Commission in relation to competition and antitrust issues: a direct power to investigate and a power to sanction[2]. By contrast, European environmental law looks like a 'parent pauvre'. In this area, the European Commission does not enjoy a similar centralized investigative power, not even a faint shadow of it. No European Union institution or agency has such power in environmental matters, not even the European Environmental Agency[3].While the Commission's role is to ensure the full application of Community legislation on the environment4, enforcement of environmental law is and has always been primarily a responsibility of the Member States[5]. The question we want to address in the present paper is 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' and if both aspects (dieselgate and inspection) are, somehow, interrelated.

2 Dieselgate

Dieselgate is about cheating and lying. It is the name given to a fraud. A fraud on compliance with emissions standards for automotive vehicles, orchestrated at a large scale.

The main pollutant concerned is nitrogen oxide (NO_X), emitted during fuel combustion, in particular from diesel engines[6]. That pollutant is a serious concern for public health and is associated with premature death due to respiratory- and cardiovascular-related effects. It contributes to the formation of smog. NO_X concentrations in Europe still exceed legally binding air quality standards and national reduction commitments. Member States struggle with the difficulty of meeting air quality values for NO_X[7].

2.1 Dieselgate in the US

Dieselgate was unveiled in the US, quite incidentally. It all started in 2012 with a tender invitation circulated by a non-profit organization, the International Council of Clean Transportation (ICCT), to test clean diesel technology used in German car manufacturing in real conditions[8]. At the time, there was a huge advertising campaign in the US, diffusing the message that consumption and emission values of a Volkswagen or Audi diesel car were just as good as Toyota's Prius hybrid, but with superior engine power and performance[9]. ICCT, aware of the resistance carmakers demonstrated in Europe in relation to stringent emissions limits, wanted to know more about that 'clean diesel'. It was even enthusiastic about the idea 'they could make it in the US'[10]. Three students from West Virginia University answered the call. Their institute was equipped with a portable measuring engine. The tests were conducted in California for practical

1 The Guardian, Wednesday 18 July 2018 (£3.8bn).

2 Art. 105 TFUE: "the Commission shall ensure the application of the principles laid down in Articles 101 and 102. On application by a Member State or on its own initiative, and in cooperation with the competent authorities in the Member States, which shall give it their assistance, the Commission shall investigate cases of suspected infringement of these principles. If it finds that there has been an infringement, it shall propose appropriate measures to bring it to an end. If the infringement is not brought to an end, the Commission shall record such infringement of the principles in a reasoned decision. The Commission may publish its decision and authorise Member States to take the measures, the conditions and details of which it shall determine, needed to remedy the situation."

3 On the same issue, see L. Krämer, The Volkswagen Scandal – Air Pollution and Administrative inertia, ELNI Review, 2016, 2, pp. 64-74.

4 As recalled by Regulation (EC) No 401/2009 of the European Parliament and the Council of 23 April 2009 on the European Environment Agency and the European Environment Information and Observation Network.

5 Art. 192 (4) TFEU, as applicable in 2018: "without prejudice to certain measures adopted by the Union, the Member States shall finance and implement the environment policy". See also, about the importance of such sentence, J. Jans, European Environmental Law, Kluwer, 1990, p. 143, referring to Art. 130S(4) of the EEC Treaty, as modified by the Single Act in 1987.

6 European Parliament Research Service, D. Bourguignon, At a glance, 1 October 2015.

7 CJEU, C-404/13, *Client Earth,* 19 November 2014. A. Ryall, Enforcing EU Environmental Law against Member States: Air Pollution, National Courts and the Rule of Law, EJRR, 2/2015, pp. 305-308.

8 For a full story, as reported by journalists, see J. Ewing (New York Times correspondent), Faster, Higher, Farther, The inside story of the Volkswagen scandal, Transworld publishers, London, 2017; Spiegel Online, The Three Students Who Uncovered 'Dieselgate', by Ph. Oemke, 23 October 2017, available at http://www.spiegel.de/international/business/the-three-students-who-discovered-dieselgate-a-1173686.html.

9 See Der Spiegel online, op. cit.

10 J. Ewing, op. cit., p. 205.

reasons[11]. They revealed that real-world nitrogen oxide (NOx) emissions from the VW cars exceeded the US-EPA standard by 15 to 35 times. The cars showed much higher emissions while on the road than in the lab. The researchers released their report "In-Use Emissions Testing of Light-Duty Diesel Vehicles in the United States" months later, in March 2014, and presented their observations at a conference in San Diego, without elaborating much about the possible reasons for the observed discrepancy. Officials of the California Air Resource Board (CARB) – the state where the testing took place – decided to pursue the investigation, in dialogue with the industry. But car manufacturers did not offer the administration convincing explanation on the problem's origin[12]. CARB subsequently threatened denial of the approval of a new 2016 model. Only in August 2015 did VW admit to CARB, in the presence of an official of the United States Environmental Protection Agency (EPA), the use of a defeat device in order to cheat on real emissions tests[13]. The follow-up is well known. On Sept. 18, 2015, the EPA revealed VW's diesel trickery to the world[14]. VW admitted that its strategy was meant to increase its market share. It had intentionally equipped its cars with a "defeat-device" since 2008, in 11 millions cars worldwide. VW's CEO apologized and resigned a few days later. Judicial proceedings followed soon after, in 2016[15]. In the aftermath of the global financial crisis, punishment of corporate wrongdoing was a priority in the U.S Department of Justice. Due to breaches of the Clean Air Act, but also to attempts to mislead consumers and efforts to mislead government officials, the Department filed suit to pursue the individuals responsible "for orchestrating this damaging conspiracy", first a civil complaint, followed by criminal charges.

Other suits were filed by New York, Massachusetts, Maryland, Vermont and other states, for violations of consumer and environmental laws.

2.2 Dieselgate in the EU

The same type of research on real emissions had been conducted in the European Union, and made public, as early as 2010 as far as light vehicles were concerned[16], four years before the dieselgate scandal was revealed in the US.

The European Union was long aware of the possible use of defeat devices by car producers, as demonstrated by the content of its own legislation on emissions from motor vehicles[17] but also by the content of UNECE Regulations on motor vehicles it subscribes to[18]. This concern for defeat devices was the result of an earlier fraud that had been detected for trucks[19].

The use of defeat devices was actually prohibited since the late nineties under European Union law, with some exceptions:

> *"The use of defeat devices that reduce the effectiveness of emission control systems shall be prohibited. The prohibition shall not apply where:*
>
> *(a) the need for the device is justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle;*
>
> *(b) the device does not function beyond the requirements of engine starting;*
>
> *or*
>
> *(c) the conditions are substantially included in the test procedures for verifying evaporative emissions and average tailpipe emissions"*[20].

11 Over five pre-defined routes categorized based on their predominant driving conditions (highway, urban/suburban, and rural-up/downhill driving).

12 J. Ewing, op. cit.

13 Id., p. 246-247.

14 As expressed by Der Spiegel, op. cit.

15 The allegations were set forth in a complaint originally filed by the United States on behalf of the EPA on January 4th, 2016, and amended on October 7th, 2016.

16 And even earlier with regard to trucks: in 2003, the German Federal Environment Agency revealed that European truck makers were using computers inside diesel engines to evade emissions regulations (A. Friedrich, Umweltbundsamt, 'Sachtstandpapier: Erhöhte Nox-Emissionen von Euro-2-Lkw', available at https://www.umweltbundesamt.de/publikationen/erhoehte-nox-emissionen-von-euro-2-lkw). Here also, a similar scandal occurred in the US, leading to a $1 billion settlement. But no penalties were imposed in Europe, according to J. Ewing, op. cit., p. 202.

17 For instance, Directive 98/69/EC of the European Parliament and of the Council of 13 October 1998 relating to measures to be taken against air pollution by emissions from motor vehicles and amending Council Directive 70/220/EEC, Annex I, already contained a definition of defeat device (2.16): "Defeat device" means any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum or any other parameter for the purpose of activating, modulating, delaying or deactivating the operation of any part of the emission control system, that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use. Such an element of design may not be considered a defeat device if: I. The need for the device is justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle, or II. The device does not function beyond the requirements of engine starting, or III. Conditions are substantially included in the Type I or Type VI test procedures.'

18 As explained, a study made for the European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector, study for the EMIS Committee, 2016, p. 15, two type-approval systems exist side by side in Europe, one of them being discussed in the framework of the United Nations Economic Commission for Europe (UNECE). Regulation No. 83 (UN/ECE) on Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements (OJ L 42, 15.2.2012, p. 1–207), which entered into force in 2011, prohibits defeat devices.

19 see above, note 16.

20 Regulation (EC) no 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, Art. 5(2).

The European Union was also for long aware of the importance of controlling 'real world emissions' and was interested in the technical feasibility of on-road emissions tests for more precise and realistic information on car air pollution emissions in real traffic conditions[21]. As a consequence, the Joint Research Center, a study center related to the Commission, tested diesel cars on the road using portable measurement equipment and presented its results at a workshop held in Brussels on 23 November 2010[22]. They found that Euro 4 and 5 diesel cars exhibited much higher NOx on-road emissions (up to 4-5 times the emission limit) than the type approval limit values regardless of driving conditions. As confirmed in a written report from 2011[23], published the same year[24], the study found that laboratory emissions testing failed to accurately capture the on-road emissions of light-duty vehicles: if real driving emissions of petrol engines were in general well controlled, NOx emissions from diesel engines were not. But these official studies were only 'scientific', taking care to mention that their purpose 'was neither to test specific brands, models or cars nor to control compliance with emission levels. They were scientific studies in view of future policies, not technical controls'[25]. The suggested follow-up was to establish a complementary emissions test procedure, together with more stringent emission limits. The conclusions led the European Commission to set up a working group in 2011 aimed at developing a complementary emissions test procedure for light-duty vehicles.

Unlike in the United States, where suspicious behaviour of diesel cars was investigated by the Californian Board and the EPA, no action was taken in Europe, except for further studies and discussions about "how to improve the tests" or change the limit values. This despite the evident problem of air pollution in European cities. And despite the fact that, as documents later showed, European officials had already been aware of the possibility of manipulation for years[26].

That tranquil inertia was shaken by the US reaction to dieselgate and the EPA taking the matter very seriously into consideration[27]. Only after the EPA's public disclosure of the scandal in September 2015 did Germany, France, Italy, and the UK decide to open investigations[28] in Europe.

3 Inspection powers

3.1 Enforcement deficit in the EU

There has always been a structural problem of implementation deficit in the European Union, as far as environmental law is concerned[29]. One of the early explanations can be traced back to the principle of state sovereignty. Criminal law was also long out of reach for the EU legislator. For a long time, the sole request it could impose on Member States regarding the proper implementation of EU environmental law was to require that their enforcement measures be proportionate, effective, preventive and non-discriminatory. Discussions have raged on for years about how to better boost Member States' inspection powers[30] or to force them to impose criminal penalties[31], but rarely about mimicking the competition model and the Commission's superpower in this area[32], nor creating an EPA 'à l'américaine'.

Sure, there is an EPA in the European Union, the European Environmental Agency, active since the mid-nineties. Its role is very different from its homonym in the United States. The European EPA's main task is to provide sound, independent information, collected in cooperation with other Community bodies and programmes (such as the Joint Research Center), 'in order to help the adoption of better informed decisions and to build a coherent information network'[33]. It is not an inspection body, nor a control body, nor a punitive body. The European Parliament proposed that the

21 See the preamble of the 2007 Regulation on type approval of Euro 5 and 6 vehicles.

22 Report online available at https://circabc.europa.eu/webdav/CircaBC/GROW/automotive/Library/commission_expert/workshop_legislation/meeting_november/101126%20Summary%20of%20workshop.pdf.

23 JRC scientific and technical reports, 2011, Analyzing on-road emissions of light-duty vehicles with Portable Emission Measurement Systems (PEMS).

24 M. Weiss, P. Bonnel, R. Hummel, A. Provenza & U. Manfredi, 'On-Road Emissions of Light-Duty Vehicles in Europe', *Environmental Science & Technology,* 2011, n°45, pp. 8575-8581.

25 Commission DG JRC press release (no date – ref. LD-NB-25572-EN-N), available at: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC75998/ldnb25572enn.pdf.

26 Spiegel Online, 'How officials Ignored Years of Emissions Evidence', 19 August 2016, http://www.spiegel.de/international/business/volkswagen-how-officials-ignored-years-of-emissions-evidence-a-1108325.html.

27 L. Krämer, 'The Volkswagen Scandal – Air Pollution and Administrative inertia', ELNI Review, 2016, 2, pp. 64-74.

28 M. di Rattalma, The dieselgate – A legal perspective, Springer, 2017.

29 L. Krämer, Deficits in application of EC Environmental law and its causes), Focus on European Environmental Law, Sweet & Maxwell, Londres, 1997, p. 1; M. Heldemann-Robinson, *Environmental Inspections and the EU: Securing an Effective Role for a Supranational Union Legal Framework,* Transnational Environmental Law, 2017, vol.6, pp.31-58.

30 J. Jans, European Environmental Law, Kluwer, 1990, p.143.

31 With the so-called Directive on Environmental Crime (Directive 2008/99/CE of 19 November 2008).

32 In its 1996 Communication on 'Implementing Community environmental law', the European Commission addressed the question whether there 'might be a need for a limited Community body with auditing competences'. The follow-up rather focused on a role of assistance, dialogue and coordination.

33 Council Regulation (EEC) No 1210/90 of 7 May 1990 on the establishment of the European Environment Agency and the European Environment Information and Observation Network, amended several times; codified version in Regulation (EC) No 401/2009 of the European Parliament and the Council of 23 April 2009 on the European Environment Agency and the European Environment Information and Observation Network

EPA should be given investigation powers but Member States vehemently opposed the idea[34].

Inspection remains mainly the task of individual Member States – with, progressively, more directions being given at the EU level, either through new legislative impulse (such as the Directive on industrial emissions and its provisions on inspection) or via the coordination of a better dialogue[35]. The Commission, despite a lack of formal power of investigation in environmental matters[36], is in charge of bringing cases to the fore of the Court of Justice. It can rely on numerous information canals such as individual complaints (518/year in 2017 on environmental matters[37]), national reporting, questions raised by the European Parliament or even its own verifications[38]. In that play and on environmental matters, the Commission's generic role in controlling the application of EU law is addressed in relation to Member States, as clearly expressed in Art. 258[39] of the TFUE. The Commission's role is to focus on infringements at Member State level (or by other EU institutions). It can take a Member State to the Court (173 infringement cases were launched in 2017[40]).

But, by contrast, on environmental matters, the European Commission cannot – so far – take a corporation to the European Court of Justice, nor directly fine it, based on its sole environmental competence. It can only act indirectly by suing a Member State, or act against the company on other grounds, such as a competition law issue.

3.2 The enforcement of the type-approval procedure

The type-approval procedure for motor vehicles is harmonized at EU level[41]. All 28 Member States are bound to apply identical kind of rules and to pursue the same objectives. But such harmonization is not complete, and it does not mean that Member States have no crucial role to play. First, Member States must fill in some gaps in that harmonized frame, mostly concerning the enforcement aspect and applicable penalties. As very explicitly mentioned in Art. 13 of Regulation 705/2007 of 20 June 2007 concerning emissions from Euro 5 and 6 vehicles (only applicable till 31 August 2020):

"*Member States shall lay down the provisions on penalties applicable for infringement by manufacturers of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 2 January 2009 and shall notify it without delay of any subsequent amendment affecting them*"[42].

The enforcement dimension is left to the Member States, resulting in a blatant lack of consistency[43]. In the automobile sector, following the revelations in September 2015 that the Volkswagen Group used software to sidestep emissions standards, the Commission, based on various information sources[44], observed that several Member States even failed to establish penalty systems to deter car manufacturers from violating car emissions legislation[45]. Member States, most importantly, are also in charge of the application of the type-approval procedure and the delivery of the 'CE' certificates. The European harmonization does not create a common desk or unified entry point into the approval system (such as procedures that are

34 P. Wenneras, The Enforcement of EC Environmental Law, Oxford, OUP, 2007, p. 254.

35 Cfr the freshly created 'group of experts on environmental compliance and governance', by Commission Decision of 18.01.2018. Among the experts: Europol, Eurojust, but also European Union Network for Implementation and Enforcement of Environmental law (IMPEL), EU Forum of Judges for the Environment (EUFJE), European Network of Prosecutors for the Environment (ENPE), EnviCrimeNet, European Network of the Heads of Environment Protection Agencies (NEPA), European Organisation of Supreme Audit Institutions (EUROSAI).

36 Except, as mentioned by M. Hedemann, *op.cit*., in areas like radioactivity monitoring.

37 Commission Report 2017, Monitoring the application of EU law, July 2018, statistical overview.

38 J. Jans, op. cit., p. 148, mentioning the visit of sites, with the consent of the Member States in question, or the request of expert reports.

39 Art. 258: 'If the Commission considers that a Member State has failed to fulfil an obligation under the Treaties, it shall deliver a reasoned opinion on the matter after giving the State concerned the opportunity to submit its observations. If the State concerned does not comply with the opinion within the period laid down by the Commission, the latter may bring the matter before the Court of Justice of the European Union.'

40 12 July 2017, Commission report on monitoring the application of EU law.

41 For a description of the regime: N. de Sadeleer, "Harmonizing Car Emissions, Air Quality, and Fuel Quality Standards in the Wake of the VW Scandal, EJRR, 2016/1, pp. 11-24; Directive 2007/46/EC establishing the framework for the approval of motor vehicles and their trailer, and of system components and separate technical units intended for such vehicles; Regulation (EC) no 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information.

42 "The types of infringements which are subject to a penalty shall include:
(a) making false declarations during the approval procedures or procedures leading to a recall;
(b) falsifying test results for type approval or in-service conformity;
(c) withholding data or technical specifications which could lead to recall or withdrawal of type approval;
(d) use of defeat devices;
(e) refusal to provide access to information."

43 European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector', study for the EMIS Committee, 2016, p. 10.

44 For instance, in the context of a request from the German Transport Ministry in September 2016 to mediate between the German and Italian authorities on a dissent on NOx emissions concerning vehicles of a type approved by Italy. In the course of the mediation process, the Commission carefully assessed the NOx emissions test results provided by the German type approval authority (Kraftfahrt-Bundesamt), as well as the extensive technical information provided by Italy on the emission control strategies employed by FCA in the car type in question.

45 While in the US this is settled under the Clean Air Act. See N. de Sadeleer, op. cit. L. Krämer, op. cit.

applicable under the REACH regime, for instance). The regime is split into 28 potential approval authorities, from which carmakers can choose, in order to obtain the approval. Vehicles types[46] tend to be approved in their country of origin. When a manufacturer is preparing the launch of a new model on the EU market, the technical services that perform the official type-approval testing are still paid directly by car manufacturers[47]. Once obtained, the type-approval is a precious key because it is valid throughout the whole EU[48]. The granting of a type-approval is tightly linked to emissions or fuel consumption. While emissions limits and the prohibition of defeat devices are fixed by the European legislator and form essential parts of the European regime, the test requirements are fixed via an implementing measure, adopted by the Commission and flanked by a committee, with a possible risk of 'regulatory capture'[49]. When dieselgate emerged, it was revealed that the current tests dated back to the late 1960s and 'were not intended to reflect real-world driving circumstances'[50]. The oddity of the tests, despite persistent air quality problems in urban areas, did not provoke much ado, apparently. The harmonized regime did not foresee any mandatory testing under real-world driving conditions by an independent third party[51]. There was, most importantly, no counter-power, no observers and no democratic control.

4 Attitude to compliance

4.1 The hyper-tech: a temptation to cheat

"*A modern car or truck has a powerful computer under its hood and a small chemical plant, in effect, as part of its exhaust system, meaning there are many potential areas for system failure—or manipulation. All governments face significant challenges in ensuring that emissions and efficiency standards meant to protect public health and welfare are met in practice and not just in theory. Technology will continue to advance, and temptations to evade or subvert regulations will remain.*"[52] The technical complexity and expertise to check cars, especially in order to detect sophisticated deceptive devices, raise an issue of capacity. Not only the cars have become hyper-technical, but also the applicable regulation. This situation contributes to creating an easy-to-exploit grey zone[53] of influence ('many measurement regulations are specified or heavily influenced by industry players'[54]) or non-compliance ('only expert teams, mainly from manufacturers or technical services, are able to gain an overall perspective of the regulation and its practical implementation'[55]), except where, like in the US, an inspectorate decides to insist in order to understand better why signs of possible non-compliance occur.A typical niche for an eco-pouvoir, observe F. Aggeri & J. M. Saussois[56], referring to Lascoumes but also to Foucault when recalling that, in the relationships large enterprises entertain with public authorities in such hyper-tech matters, the border between compliance and non-compliance can be very thin. The public authority is confronted with a necessity to manage 'illegalism' in all its possible declinations, sometimes with some margin of tolerance and compromise. This logic of accommodation and empathy is only interrupted when an outsider enter into the picture, such as an NGO, a researcher, or a judge[57].

The temptation to be lenient can also surge from a possible conflict of interests, on the side of national authorities. This is similar to the first age of emissions trading in Europe where it proved difficult for national administrators to be severe with the allocation of quotas to their own industry, when not able to verify what the other concurring national authorities would do.

4.2 Do emissions into the environment matter?

Through the use of defeat devices, the industry did not make the necessary efforts to control and reduce emissions into the environment in accordance with legal requirements, among which limit values on nitrogen oxides (NOx)[58]. In so doing, the sector

46 The type designates a category of vehicles that share same specific characteristics. European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector, study for the EMIS Committee, 2016, p. 9.

47 As explained by the European Commission: http://europa.eu/rapid/press-release_MEMO-18-3652_en.htm.

48 Through the principle of mutual recognition: see N. de Sadeleer, op.cit.

49 Id., mentioning, by contrast, a different type of regime in the US.

50 Id.

51 European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector, study for the EMIS Committee, 2016, p. 10.

52 ICCT website, July 2018, concluding that an essential component of clean transportation policy, therefore, is effective measures to ensure that the intended outcomes from emissions-control and fuel-efficiency programs materialize, in fact, throughout the vehicle lifecycle.

53 J. Ewing, op. cit., p. 206.

54 European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector, study for the EMIS Committee, 2016, p. 10.

55 European Parliament, 'Legal obligations relating to emission measurements in the EU automotive sector, study for the EMIS Committee, 2016, p. 9.

56 F. Aggeri & J. M. Saussois, La puissance des grandes entreprises mondialisées à l'épreuve du judiciaire : de l'affaire Volkswagen au dieselgate, Revue française de gestion, Paris, Vol. 43, n°269, novembre 2017.

57 Id.

58 EU observer, ... : « Nitrogen oxides (NOx) have been subject to limit values in the European Union since Euro 3, which applied to all cars approved for sale by national authorities after January 2000.With every new Euro standard, the NOx limit was decreased, from 500 milligrams (Euro 3), via 250 milligrams (Euro 4, 2005), 180 milligrams (Euro 5, 2009), to the current Euro 6 standard of 80 milligrams per kilometer, in

loaded the whole complex structure of legislative and regulatory measures on air quality and emissions limits. This structure was probably too complex, and though it was supposed to function quite smoothly, it strangely enough did not. Was it taboo to question why pollution levels in cities were not dropping as much as they should have, considering how much stricter emissions rules had become[59]? There is not much literature to be found on this question[60]. Even on legal issues, there is a kind of silo attitude, Directive 2008/50 on Ambient Air Quality easily capturing most of the attention. It is noticeable that most declarations on dieselgate, at EU level, flow out of a concern for a smooth functioning of the internal market. The applicable legislation on car type-approval is based on Art. 114 TFUE or its former equivalents, confirming that the main drive of such provisions is the internal market. This however does not mean the environmental dimension is irrelevant. On the contrary, legislation based on Art. 114 TFUE must pursue and even guarantee a high level of protection of health and the environment. Still, a different type of anchorage - a EU Clean Air Act? - might have made a difference. In the US, the administrations which unveiled the scandal were in charge of both car type-approval and air quality, based on the Clean Air Act. Their focus was on air quality and health impacts.

4.3 The obsolescence of vehicle testing

Dieselgate in Europe revealed not only a problem in enforcement but also the obsolescence of the applicable legal regime, in many aspects.

This regime (which has now been modified by Regulation 2018/858, with new rules applicable from 1 September 2020) puts the EU vehicle testing systems in the sole hands of national authorities (with no effective control on the controller) while also basing the granting of a type approval on an inadequate test. In Europe, after the revelation of dieselgate, the scapegoat was the Member State. It was only after dieselgate that the Commission took steps against Germany, Greece, Spain, Luxembourg and the United Kingdom for failure to fulfil their obligations under EU vehicle type approval legislation and requested further information on their application of EU vehicle type approval rules. One of the problems raised was the leniency regarding the acceptance of defeat devices. But the Commission's role was also critical, as it was tasked with closely monitoring the enforcement of the applicable legislation by Member States. It was supposed to ensure that Member States comply with their reporting tasks, a decisive source of information, instead of remaining passive[61]. As recalled by L. Krämer, while the Commission has no direct inspection power it can command studies[62].

Since 2015, the applicable regime on car type approval in the European Union has been overhauled, not only regarding the type of lab tests which have to be carried out but also regarding the need to include testing in real conditions (although the new regime was canceled by the General Court in *Ville de Paris & Ville de Bruxelles c. Commission,* on 13 December 2018. The Commission was not competent in changing essential elements of the applicable regime)[63], but also with regard to who is the controller.

"*Car manufacturers have been treating emission tests laxly – some have even broken the law. The emissions scandal has shown that the responsibility to enforce the law and punish those who violate it can no longer be left solely to individual Member States*", declared Commissioner Elżbieta Bieńkowska, responsible for Internal Market, Industry, Entrepreneurship and SMEs, at a Press Conference in 2017. A reform of the whole regime led to the adoption of a new framework Regulation, Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles[64]. The Regulation shall be applicable from 1 September 2020, and stipulates that a stricter control on lab testing and performance of national authorities shall occur. Member States will be able to challenge each other's designation. The Commission becomes a controller: it will have the power to suspend, restrict or withdraw the designation of technical services that are underperforming and too lax in applying the rules. Another major advance: the new regulation empowers the Commission to levy penalties on non-compliant vehicles. Even more: car manufacturers who are in breach of type-approval legislation (e.g. defeat devices or fake declarations) risk administrative fines of up to € 30 000 per vehicle which can be levied by the Commission if no fine is being imposed by the Member State. Fines can also

place since September 2014. But when the EU legislation that laid down the Euro 5 and 6 standards was negotiated between 2005 and 2007, there were already signs that while the limit was becoming ever more strict, real-world emissions did not match the fall.

59 Quoting J. Ewing, op. cit., p. 202.

60 See C. Brand, "Beyond 'Dieselgate': Implications of unaccounted and future air pollutant emissions and energy use for cars in the United Kingdom", Energy Policy 97 (2016) 1–12.

61 L. Krämer, op. cit., p. 68 & 73.

62 Id.

63 Case T- T339/16, T352/16 et T391/16, Ville de Paris & Ville de Bruxelles c. Commission, 13 December 2018.

64 Amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC. OJ L 151, 14.6.2018, p. 1–218. See the Report of the European Court of Auditors, The EU's response to the "dieselgate" scandal, February 2019.

be imposed on technical services if they fail to carry out the tests rigorously enough. The level of fines will depend on an assessment of the gravity and extent of the non-compliance. The system of administrative fines and their calculation is not settled yet: it needs to be specified by a …Commission-delegated act. A separate forum is to be created where national authorities can exchange information, without any legal powers to order checks or investigate complaints, a weak measure when one considers that a similar body for exchange of information on type approval, TAAG, already exists and failed to uncover any non-compliance up until now[65]. Proposals had been made for the creation of an EU supervisory agency but were rejected, due to opposition of Member States and the European Parliament[66]. More powers are given to the Commission and to the Member States indeed, but without true radical change when compared to the competition model or the US EPA. According to the NGO Transport & the Environment, a cost-effective and efficient solution would have been to coordinate activity centrally and conduct market surveillance through a European Vehicle Surveillance Agency (EVSA).

5 A Cartel

Recent developments which also reached worldwide media invite a discussion on another entry into the subject matter. In July 2017, Der Spiegel article titled "Das Kartell" revealed the possibility of a cartel between VW, Audi, Porsche, BMW and Daimler – a collusion among the car companies in order to get a competitive advantage. This is currently the subject of an investigation, about which we do not have any information. Instead of competing with each other over which company could employ the technology faster and more effectively than the others in order to comply with new emissions limits, developers discussed the issue at length in their working groups, according to Der Spiegel[67]. According to the journal, five manufacturers jointly established "technical standards" and agreed to use "only certain technical solutions" in new vehicles, including for tanks needed to reduce emissions. "This may not have posed a problem under cartel law if all automakers had been given access to the data, including competitors from France, Italy, Japan and the United States. But the members of the German group of five wanted it to remain an exclusive group"[68]. Cartel authorities in Brussels and Bonn are investigating the issue. On competition, the Commission enjoys an "ambience of power"[69], with extended investigative powers and extraordinary powers to fine[70], even if not exclusive but shared nowadays with the Member States. Fraud can be costly, as demonstrated by the fine imposed to Google. In the US, the defeat devices were used to remain competitive with hybrid cars that were successfully attracting consumers with their environmental performance. Cheating on the environment in order to remain competitive, a dangerous cocktail…for all? Could we soon read headlines in the newspapers such as " X fined €4.34bn by EU over Air Quality Standards violations in order to get a competitive advantage"?

6 Conclusion

Dieselgate functions as an eye opener – An eye opener on the reality of a case of fraud in relation to emissions control. Companies, often keen to adopt voluntary agreements, happen to strangely resist the '*regulatory*'. Innovation does not always lead to compliance but, on the contrary, to compliance twisting. Instead of gaining new markets in a sustainable way, this only made things worse, not only for the corporations but also for society.

We could never have known about this and pursued endless discussion about how to clean the air in cities. The triggering factor of the scandal was first a study commanded in the US by an NGO, with difficult-to-interpret results. A similar study had actually already been conducted in Europe, with similar results, but no consequences. What made all the difference was an "attitude to compliance". Compliance was taken seriously in California. In contrast, such an attitude was not at oeuvre in Europe. [71] Strange results on real emissions needed to be investigated further, found a national authority in the US. No national authority is known to have taken hold of the 2011 results which had been produced in Europe and were also quite bizarre.

Another difference was the power of the American EPA to sue the company directly, both on civil and criminal charges, once the fraud was heavily documented. In the EU, power is currently left to the Member States on environment and internal market affairs. Only after the information flow flooded the

65 According to Transport & the Environment,
66 N. De Sadeleer, op. cit.
67 27 July 2017. The cartel. Collusion between Germany's biggest carmakers.
68 Id.
69 I. Maher, A Fine Balance: The National Courts, the European Commission and EU Competition Law, 33, Dublin University Law Journal, 2011.
70 Id.
71 M.Führ, Der Dieselskandal und das Recht („the dieselscandal and the law"), Neue Zeitschrift für Verwaltungsrecht (NVwZ) 36 (5), 2018, 265-273, identifies a „culture or disrespect of the law" (Kultur der „Missachtung des Rechts"; cf. p. 273) and proposes to align the type approval context with the Aarhus principles. The piece is based on evidence the author has provided to the investigation committee of the German Parliament in 2016.

continent, or under threat of infringement procedures launched by the Commission, did national inspectorates openly take action against car manufacturers.What could be the next part of the story? Calling for the creation of an EU EPA "à l'américaine" might sound rather naïve or unrealistic at this very moment, if we look at the broader picture. Even punctually, recent attempts to create an EU supervisory agency failed, while discussing the adoption of Regulation 2018/858 on market surveillance of vehicles. At the same time, "it is difficult to see how significant progress will be achieved in addressing the current poor state of implementation of EU environmental law[72]'without a more coherent supranational framework.

Still, we observed that the leniency with regard to vehicle market surveillance is also a question of attitude, and not only one of structure.

A logic of accommodation and empathy, that can get disrupted when a few individuals start to ask the right questions and do not get satisfied with easy answers.The right questions, based on the consideration that air quality is something to genuinely care about. Because it is a matter of the utmost importance for public health. Because, as a consequence, it is a matter of rights for the individuals. Because, in many cases, it is also a matter of unfair competitive advantage.

Taking emissions control truly *au sérieux*. Could this be the refreshed base for a brand new Clean Air Act in Europe, which would also include, somehow, the market surveillance of vehicles?

72 Quoting M. Hedemaan, op.cit., p. 58.

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

William Rundle

1 Introduction

It is incredibly important that people have a voice. Citizens should be able to participate in public life in a meaningful way. That includes having a say on the laws that affect them and the environment we all depend on. Strong and confident governance in a democratic society will not shy away from this or what the people may say. Indeed, that is the whole point: that all views (critical or otherwise) be taken into account so that what is proposed is improved with better information. Established systems of environmental governance (and governance in [1] on consultation, and a course of practice by government that shows often consultations do occur. Of course, we have the common law too, which sets out some minimum requirements. However, none of this mandates, consistently, the requirement to always consult and engage the public in the preparation of new laws that can significantly affect the environment. Ministers in power can still choose not to. And that is what Friends of the Earth says happened with legislating for 'Brexit'. There was a vote to leave the EU, but engagement on how we should do so and what that means for the environment was lacking. As anyone can now see (at the time of writing in December 2018) with the chaotic and uncertain events around the withdrawal agreement negotiations between the EU and the UK, the question of 'how' Brexit is to occur is very important. This article relates to that question. It addresses it by describing Friends of the Earth's legal challenge, in the form of a Communication to the Aarhus Convention Compliance Committee[2], alleging breaches under Articles 8 and 3 of the Aarhus Convention[3].

Fundamentally, it's about the UK government's apparent failure to properly engage the public on the legislative centrepiece for Brexit[4] with regards to general) should have clear legal frameworks that provide for effective and consistent participation.

Yet in the UK, a mature and established democratic country, we the public find ourselves in the peculiar situation of not having clear or enforceable rights to effective public participation in the environmental field, during the preparation of new laws. That is specifically, when new laws are being prepared by the executive that can significantly impact on the environment. There is a voluntary ministerial code

how exit from the EU should occur and what that could mean for the environment.

2 Brexit and the Environment

Brexit is probably the biggest political crisis in the UK since the Second World War. It has been driven to a large degree by deep-seated political and social divisions, in the pervasive context of alleged misinformation from various political actors, alongside what the author considers is a general lack of public knowledge over the complex relationship the UK has had with the EU to date. What is clear though is that Brexit was never about the environment. Both the period of the referendum and the political process and turmoil that followed (for example, recall the snap general election) has – in the opinion of the author – left little space for considered and objective debate for the general public on how we would leave the EU in the lead up to the EU Withdrawal Act becoming law. Indeed, the implications for the environment seemed to have barely featured at all during that time. On 23 June 2016 the UK public voted following a highly contentious political campaign. The referendum resulted in 51.9% of voters voting to leave the EU. The Electoral Commission reports a turnout of 72.2% of the UK electorate[5]. In terms of UK environmental governance it was immediately apparent to most practicing environmental lawyers that this could have significant implications in the environmental field. Due to the UK's membership of the EU since the 1970's we have been part of a union that has actively and progressively aimed at a high level of environmental protection, essentially as a matter of fundamental constitutional importance

1 The consultation principles are found here: https://www.gov.uk/government/publications/consultation-principles-guidance.

2 The full documentation can be found here: https://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc2017150-united-kingdom.html.

3 The Aarhus Convention can be accessed here: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=2ahUKEwizqur8nZrfAhVLNOwKHTRnC1wQFjACegQICxAC&url=https%3A%2F%2Fwww.unece.org%2Ffileadmin%2FDAM%2Fenv%2Fpp%2Fdocuments%2Fcep43e.pdf&usg=AOvVaw3NNKr7HDCmBituoGLnfekF

4 The EU Withdrawal Act 2018: http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted.

5 See here: https://www.electoralcommission.org.uk/find-information-by-subject/elections-and-referendums/past-elections-and-referendums/eu-referendum/electorate-and-count-information.

(e.g. see Article 191 of TFEU, among other important matters)[6], and unsurprisingly the EU has legislated prolifically with this in mind. Most of the UK's environmental laws derive from or at least interact with EU law (including the majority of the laws that implement the Aarhus Convention as it happens). The House of Lords European Union Committee, in its report *Brexit: environment and climate change* (14 February 2017), stated that:

"The exact proportion of UK environmental law that stems from EU legislation is hard to quantify, but it is substantial. Professor Richard Macrory, Professor of Environmental Law at University College London, noted Kramer's EU Environmental Law (2011) lists 111 Regulations, 256 Directives and 136 Decisions that were in place by 2010. Defra told us that "over 1,100 core pieces of directly applicable EU legislation and national implementing legislation have been identified as Defra-owned", that is to say they relate to policy areas that fall within the remit of the Department [of the environment, food and rural affairs]."[7]

All of this law would now need to be adapted and transferred to a UK only basis. The UK government promoted the so called "Great Repeal Bill" (the "Bill") to do that – and the 'EU Withdrawal Act 2018', after some amendments, became law. According to a more recent report by the National Audit Office published on 12 September 2018,[8] the Department for Environment Food and Rural Affairs still needs to adopt a total of 151 Statutory Instruments, comprising 93 to complete the conversion of EU law into UK law at the point of exit, and 58 for non-EU business (but related to the department's environmental remit) as a result of Brexit. This is, according to the report, "*more than double*" the average number in the 8 years to 2017.[9] So without even getting into the details of any particular issue, it is apparent to anyone with more than a passing acquaintance with EU and UK environmental law that leaving the EU could have significant implications for the environment.

Notwithstanding that (and all the other many complexities that were yet to be worked out), the European Union (Notification of Withdrawal) Act 2017 was passed into law on 16 March 2017 and notification to start the withdrawal process was given to Donald Tusk, on 29 March 2017. This put the UK on course to complete the withdrawal process by 30 March 2019 (subject to any further agreements and transitional arrangements that may be negotiated). On 30 March 2017 the UK Government produced a "White Paper"[10], which set out its main objectives and approach towards legislating to withdraw. However, the White Paper was not a consultation process with the public. There were no questions asked of the public and there has been no published response from the Government in reply to feedback it may have nevertheless received.[11] The Government then called a surprise general election between the publication of the White Paper and the presentation of the "Bill" as draft legislation before Parliament.[12] The Bill itself, formally called the "European Union (Withdrawal) Bill", was given its first reading in Parliament on 13 July 2017 just a few months after the White Paper was published.[13] The terms of the draft legislation were not previously made available to the public. Friends of the Earth believes that under the terms of the Aarhus Convention they should have been. As such, Friends of the Earth became concerned that there had simply been no effective public engagement or consultation at a time when options were open on *how* to effect withdrawal in the environmental context; the terms of a draft bill alongside an explanation as to what that might mean for the environment had never been presented for public comment. In addition to this, the draft Bill, that had now been laid before the legislature, presented a further potential problem. It not only enacted the means for the UK's withdrawal, but also set out a framework through which the whole body of EU law was to be transferred across to a UK only basis, through a series of powers for relevant Ministers.[14] All of which was not restricted in any way by reference to the public participation requirements of Article 8. In fact, there is not even a mechanism in place to identify *if* a significant environmental effect is realistically possible to trigger Article 8 in the first place. This appeared to create a further system that would lead to additional breaches of Article 8.

6 See Article 191 of TFEU here: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12008E191:EN:HTML

7 House of Lords European Union Committee, *Brexit: environment and climate change*, 12th Report of Session 2016–17, 14 February 2017, paragraph 17.

8 *Progress in Implementing EU Exit* https://www.nao.org.uk/wp-content/uploads/2018/09/Defra-Progress-Implementing-EU-Exit-Summary.pdf p9 para.11 – accessed 19 October 2018.

9 Ibid.

10 https://www.gov.uk/government/publications/the-repeal-bill-white-paper

11 The White paper did provide an email address for feedback, but did not request public responses as part of an express consultation.

12 After voting for a snap election on the 19th of April, Parliamentary business was formally ended on the 27th of April 2017, campaigning ensued with the general election being held on the 8th of June. Parliament reopened again after the swearing in of new MPs on the 23rd of June. This represents considerable disruption to any informal public engagement with the approach set out in the White Paper during that time; that is notwithstanding that such informal engagement would not satisfy Article 8.

13 http://services.parliament.uk/bills/2017-19/europeanunionwithdrawal.html ; https://www.publications.parliament.uk/pa/bills/cbill/2017-2019/0005/18005.pdf

14 For example see section 8 of the Withdrawal Act.

3 The Aarhus Convention

The Aarhus Convention was signed by the UK on 25 June 1998, and ratified on 23 February 2005. Unfortunately, at no point since then has the UK fully incorporated the Convention into UK national law, and as the UK is a dualist state the public are not able to benefit from all of it.[15] With regards to the Communication in question, the UK has never introduced a statutory legal requirement mandating Article 8 compliance.Nevertheless, the UK is bound by the Convention in international law, and has submitted to the oversight of the Aarhus Convention Compliance Committee in relation to its implementation.

The relevant Convention provisions to the communication are as follows, emphasis added. Article 8:

"Each Party shall strive to promote effective public participation at an appropriate stage, and while options are still open, during the preparation by public authorities of executive regulations and other generally applicable legally binding rules that may have a significant effect on the environment. To this end, the following steps should be taken:

(a) Time-frames sufficient for effective participation should be fixed;

(b) Draft rules should be published or otherwise made publicly available; and

(c) The public should be given the opportunity to comment, directly or through representative consultative bodies. The result of the public participation shall be taken into account as far as possible."

These requirements are further supported and reflected in Recitals 9 to 11 of the Preamble to the Convention:

"Recognizing that, in the field of the environment, improved access to information and public participation in decision-making enhance the quality and the implementation of decisions, contribute to public awareness of environmental issues, give the public the opportunity to express its concerns and enable public authorities to take due account of such concerns,

Aiming thereby to further the accountability of and transparency in decision-making and to strengthen public support for decisions on the environment,

Recognizing the desirability of transparency in all branches of government and inviting legislative bodies to implement the principles of this Convention in their proceedings"

Article 3 (1) of the Convention then says this on implementation:

"Each Party shall take the necessary legislative, regulatory and other measures, including measures to achieve compatibility between the provisions implementing the information, public participation and access-to-justice provisions in this Convention, as well as proper enforcement measures, to establish and maintain a clear, transparent and consistent framework to implement the provisions of this Convention."

The Compliance Committee has itself considered Article 8, and provided an instructive advisory opinion to Belarus.[16] Belarus sought clarification on the scope of the obligation in Article 8. In making its findings the Committee considered the Secretariat's response, the Aarhus Implementation Guide, the Maastricht Recommendations, as well as its own jurisprudence. The overall conclusions reached in respect of Article 8 are at paragraph 58 (emphasis added):

"(h) The final version of a normative instrument be in practice accompanied by an explanation of the public participation process and how the results of the public participation were taken into account, bearing in mind that article 8, paragraphs (a) – (c), of the Convention sets forth a minimum of three elements that should be implemented in order to meet the obligation to promote effective public participation, and also that the final sentence of article 8 requires Parties to ensure that the outcomes of public participation is taken into account as far as possible;…"

4 The Friends of the Earth Communication

Based on the legal and factual context broadly summarised above, Friends of the Earth alleges the UK is in breach of both Articles 8 and 3, read together. As can be seen in the UNECE published documentation[17] there are various arguments deployed by both Friends of the Earth and the UK. In essence the case is simply that no formal engagement with the public ever occurred, or was even attempted, on the terms of the draft bill and what it meant for the environment. That is, *before* the draft bill was presented to the legislature.

Three main issues were raised.

15 Many European countries are monist states. In dualist states a ratified treaty does not alter the laws until it is incorporated into national law by further legislation. This is a constitutional requirement. The European Communities Act 1972 is such an example. Once incorporating legislation is enacted, the national courts may enforce treaty rights and obligations as are incorporated.

16 See decision with reference: ACCC/A/2014/1.

17 The Communication: https://www.unece.org/fileadmin/DAM/env/pp/compliance/C2017-150/Communication_UK_FoE_31.10.2017.pdf ; and Friends of the Earth's reply to UK observations: https://www.unece.org/fileadmin/DAM/env/pp/compliance/C2017-150/Correspondence_with_the_communicant/frCommC150_21.11.2018_comments_on_the_Party%E2%80%99s_response.pdf

a) That the preparation of the Bill breached of Article 8 as there had been no formal public consultation in the preparation of the Bill before it was presented to Parliament for making into law. None of the minimum requirements in Article 8 (a) – (c) were met. As a result the UK government has not taken into account the general public's views, nor can it demonstrate that it has done so. (the "first issue")
b) That the preparation of subsequent legislation provided for under the draft Bill will breach Article 8 going forwards. The draft Bill does not provide a legal framework mandating effective public participation in the preparation of subsequent legislation under it when transferring across EU law onto a solely UK basis, where those laws can have a significant effect on the environment. There is no legal requirement to consult the public on changes that can significantly affect the environment and so public participation will consequently not be taken into account, because it will not occur. (the "second issue")
c) There is no clear, transparent and consistent framework to implement Article 8 in the scenarios above or in any event. This amounts to a systemic failure of implementation. (the "third issue")

5 Admissability

A hearing was convened by the Compliance Committee to consider the admissibility of the complaint on 11 December 2017. The UK contested admissibility across all the issues raised, and on three main grounds: that it was an abuse of the right to make such Communications; that it was manifestly unreasonable; and, incompatible with the provisions of the Convention. Of particular interest was the contention that the UK was acting in a legislative capacity and so the Communication was outside the scope of the Convention. In addition, that the allegations with respect to the future operation of provisions contained within the Bill were premature, because the Bill was currently being debated in Parliament and may yet change.In the event, the Compliance Committee gave its preliminary determination on admissibility that the Communication was admissible in respect to the first and third issues, but that it agreed with the UK that the complaint about the future operation of the Bill was premature because those provisions were not yet finalised, and so was inadmissible.

However, subsequently, as the EU Withdrawal Bill has now become law,[18] Friends of the Earth have asked the Committee in its response submissions to revisit its preliminary decision on admissibility on this second issue, because there is now a finalised legal framework in place that will operate as originally complained of. This framework still has no provision for checking for potential significant environmental effects in that process of transferring EU law onto a UK only basis, nor to allow for public participation in accordance with Article 8 should that potential be identified.[19]

6 The UK Response

Notwithstanding the overriding submission that the Communication is without merit and misconceived on all of its grounds, the UK Government nevertheless instructed an experienced Queens Counsel to produce and submit 52 pages of carefully written and lengthy legal arguments, with Annexures.[20]

The UK's arguments are numerous and they are not solely limited to disputing the facts in contention, but perhaps more worryingly (at least to Friends of the Earth) appear aimed at limiting the scope and effect of Article 8 altogether. This may be a new indication of a less than fully compliant (or positive) approach towards the Aarhus Convention by successive UK governments generally, which have been subjected to previous Compliance Committee oversight as mandated by the Meeting of the Parties in relation to costs and other matters (for several years now).[21]

It is worth noting in passing here that the 'Aarhus Convention: an Implementation Guide'[22] ("the Guide") emphasises that the Convention depends on relevant Parties' proactive and constructive engagement with the spirit and purpose of the Convention as much as the letter:

"*the effective implementation of the Convention depends on the Parties themselves and their willingness to implement its provisions fully and in a progressive manner*" (p. 15)

In the opinion of the author, the position taken by the UK on this complaint would, if successful, undermine and restrict the purpose and application

18 http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted

19 See the latest submission from the Communicant here: https://www.unece.org/fileadmin/DAM/env/pp/compliance/C2017-150/Correspondence_with_the_communicant/frCommC150_21.11.2018_comments_on_the_Party%E2%80%99s_response.pdf ; specifically at pages 3 and 4.

20 See the UK Observations on the Communication here: https://www.unece.org/fileadmin/DAM/env/pp/compliance/C2017-150/Party_s_response_to_communication/frPartyC150_response_to_communication_29.06.2018.pdf

21 For example see United Kingdom Decision V/9n: https://www.unece.org/environmental-policy/treaties/public-participation/aarhus-convention/envpptfwg/envppcc/envppccimplementation/fifth-meeting-of-the-parties-2014/united-kingdom-decision-v9n.html; and in particular the latest report by the Compliance Committee.

22 http://www.unece.org/index.php?id=35869 ; see pages 181 – 185 on Article 8.

of the Convention, which would be contrary to the spirit and overall objectives that Parties sign-up to.

6.1 The First Issue – scope of Article 8

This concern is apparent in relation to one of the main points taken by the UK on the first issue (breach of Article 8): that Article 8 only applies to secondary legislation and not primary legislation such as the 2018 Act. Secondary legislation is created by the executive (or other public authority) under powers granted to them in primary legislation (although often requiring parliamentary approval as well). This can be to add information or implement requirements, or to make changes to other primary legislation.The UK argues that the Bill, as primary legislation, does not qualify as relevant *"executive regulations and other generally applicable legally binding rules" (Article 8)*. The submission is that the relevant phrase in Article 8 uses terms that are not actually defined and which should in fact be read down to exclude primary legislation. Furthermore, that because primary legislation can only be enacted by Parliament after a lengthy parliamentary process, then there is a necessary distinction to be made which limits the application of Article 8 to secondary legislation only. However, the attempted distinction drawn between secondary and primary legislation is not entirely straight forward, and will no doubt be a matter for the Compliance Committee to rule upon. For example, should the words in Article 8 'generally applicable legally binding rules' be interpreted broadly and encompass all enacted legislation (both secondary and primary)? This textual and legal analysis is something the Committee must grapple with.

Friends of the Earth also view the terms of Article 8 as making clear that it is applicable to the preparation stage of (all) draft legislation by the executive (before submission to and approval by a legislature, however so done), and so the Compliance Committee will need to decide on the relevance (if any) of the submissions regarding different parliamentary process and the method of final approval or enactment into law (by Parliament or otherwise). A finding for the UK by the ACCC would, in the author's view, significantly limit the application of the Convention. It would exclude the types of legislation that have the greatest and most far reaching legal effect, and thus the legislation that could impact the environment the most. However, it would seem to be exactly that type of legislation where the argument for effective public participation is most compelling under the terms of Article 8.

Indeed, the Guide may be of further assistance here. It makes clear that the scope of Article 8 is wide: it applies to "*executive regulations and other generally applicable legally binding rules*", and that "*the term "rules" is here used in its broadest sense, and may include decrees, regulations, ordinances, instructions, normative orders, norms and rules"* (p. 49; emphasis added). It also explains that the obligation under Article 8 "*includes the participation of the public authorities in the legislative process, up until the time that drafts prepared by the executive branch are passed to the legislature*" (p. 181; emphasis added). The UK does not appear to dispute that the preparation of the 2018 Act was done by the 'Department for Exiting the European Union'.

6.2 Factual compliance

It is worth also highlighting some of the factual issues raised by the UK. They contend that in fact the minimum requirements of Article 8 have been met in what they did, which will need to be assessed by the Compliance Committee with its previous advisory ruling for Belarus in mind. The way in which the Committee eventually decides on this issue will be instructive for future compliance with Article 8.

In summary, in addition to alleging that Article 8 was not engaged at all, the UK alleges:

- that Article 8 can be satisfied by public participation with representative bodies only (and that occurred to a sufficient degree);
- that extensive public participation in fact occurred, and a lack of general public *consultation* is not in and of itself determinative of a failure of Article 8 'public participation'. (Reference is made to the referendum and the snap election campaigns, the publication of a White Paper, stakeholder engagement generally, and the parliamentary process for the bill to be enacted); and

"*That what is key under Article 8 is that any public participation is taken into account. And here it has been*" (paragraph 116 of UK response).

Again, determining this aspect could have significant implications for the application of Article 8 going forwards. It is difficult to see what use there is left for Article 8 if compliance can occur in such a crucial public moment as 'Brexit', where wide-spread public interest abounds over how we will leave the EU, yet:

a) no formal public consultation is called,

b) no publication of the relevant draft legislation occurs,

c) nor alongside any explanation as to potential environmental impact of that draft bill, and

d) there has been no apparent demonstration that any public views have been taken into account , before the draft legislation arrives at Parliament.

6.3 Third Issue – systemic failure

In relation to the third issue (no consistent legal framework), the UK relies on the common law requirements as to consultation, and a set of voluntary consultation principles, as securing and maintaining the requisite public participation. Whilst it may be true that they are valid mechanisms to be taken into account, the issue remains to be determined if they are sufficient to provide a "clear and consistent" framework for both *when* consultation should occur, and in accordance with the minimum requirements of Article 8. It is noteworthy that neither mechanism is said to set out such requirements in terms.

Indeed, it may prove to be the case that this third issue is of continuing importance. By the time that the Compliance Committee is expected to determine the complaints the UK is expected to have left the EU. However, a finding that it lacks the necessary frameworks to maintain consistency with Article 8 could stimulate positive domestic developments to improve the situation.

Should the Compliance Committee agree that there was a breach in respect of Article 8 then, in the authors view, it seems possible, if not likely, that there would also be a finding that compliance with Article 3 (to guarantee Article 8 implementation consistently), is also lacking (as how else would there be a breach?).

7 Conclusion

It will be interesting to see how the Compliance Committee takes these issues as they could have important consequences for how Article 8 of the Aarhus Convention is understood and applied in the future.It is in the author's view regrettable that the UK has taken this opportunity to advance arguments in an effort to undermine and restrict the scope and effect of Article 8. This does not appear to be confident and progressive environmental governance in line with the broad purpose and objectives of the Convention. Should the Compliance Committee find in favour of Friends of the Earth, it is sincerely hoped that the UK would then respond constructively, and propose new and better measures to consistently secure Article 8 going forwards. Such a course would be in the public interest as it would improve democratic public participation in environmental matters in the UK.

A hearing is expected mid-way through 2019.

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

Leonie Lennartz

Report on the closing event of the project "Consumer behaviour and innovations for sustainable chemistry (KInChem)" at the Protestant Academy Loccum on the 26th and 27th of September 2018

The Evangelical Academy in Loccum organized the conference "Transparency for sustainable development – impulses for learning processes in the value creation process and consumer behaviour" which took place on the 26th and 27th of September 2018. Co-organizers of the conference were the Society for Institutional Analysis (sofia), the Darmstadt University of Applied Sciences and the University of Göttingen. The KInChem project shaped the framework of the event content. In addition there were numerous contributions from speakers from other contexts, including several projects from the BMBF's "Research for Sustainable Development" programme (Fona), giving the conference at the same time the character of a synthesis conference.

Dr. Joachim Lange of the Loccum Academy opened the conference. This was followed by the first lecture by Prof. Dr. Martin Führ, sofia/Hochschule Darmstadt, on the initial questions of the conference: Transparency for sustainable development – where do we stand, what can we expect, where are we going? Martin Führ described the conditions and functions of transparency and stressed that more transparency does not automatically lead to an increase in the "sustainability" of development. In particular, the expectations of consumers should not be overburdened. Rather, it is important to integrate transparency in an institutional framework and to create a learning system through which transparency can become a stimulus for innovation. The Sustainable Development Goals (SDGs) of the United Nations provide a normative orientation for this, but they do not resolve the diverse conflicts of the aims. The task of the legal framework is, among other things, to provide content specifications and a procedural framework for the necessary negotiating process. Transformative research can make a contribution to triggering learning processes and thereby achieving an expanded system view.

Dr. Thomas Weber, Head of the Department "Sustainability and Consumer Policy in Civil Society" in the Federal Ministry of Justice and Consumer Protection, explained in his lecture the role of transparency in sustainability concepts of the Federal Government. He stressed that the sustainability issue has reached a turning point and reinforced this statement with a quote from Ban Ki-Moon, former Secretary General of the United Nations: "Our generation could be the first to eradicate poverty, just as we could be the last to have the chance to save the planet." He appealed to companies and consumers to demand effective regulations from politicians. In his opinion, one possible approach would be to introduce a sustainability design guideline to ensure that only sustainably produced goods are put on the market.

Transparency through digital solutions takes its toll by providing – sometimes personal – data. Against this background, Prof. Dr.-Ing. Delphine Reinhardt, head of the research group “Computer Security and Privacy” at the University of Göttingen, discussed the challenges and solutions of information and communication technology and privacy. She explained the seven golden rules of data protection and their possible consequences. Core risks of data protection located Prof. Reinhardt in the subject areas segmentation and discrimination, another problem area being the automatic decision-making by autonomous systems. Reinhardt also emphasized that anonymization as a solution strategy in dealing with the challenges of data protection and IT security alone is not enough. The concept of Privacy by Design, in which the direct inclusion of privacy aspects in the development of apps and cryptography is organized, was presented by Prof. Reinhardt as a step towards a solution.

In the afternoon, the participants discussed in four working groups various problem areas and transparency approaches. The aim of the working groups was to formulate policy recommendations and research needs. The results of the working groups were presented the following day.

Working group 1 discussed the promotion of sustainable consumption through communication and information tools. There were impulse lectures on consumer transparency via smartphone apps using the example of "ToxFox" by BUND, as well as Augmented Reality Recommendation Agents for sustainable food shopping at the point of sale. Further impulse lectures addressed consumer expectations of online information on products and services as well as the effects of invoice design on

electricity consumption. The working group stressed that research in various areas (food, household appliances, electricity consumption, etc.) has shown that information can "nudge" consumers towards more sustainable behaviour. Prerequisite for behavioural changes of consumers in the direction of sustainable development is that there is access to relevant information that guides action. In particular, the Internet and its availability via mobile devices open up new possibilities for "smarter" information provision. However, if the market does not provide this information, the government will have to develop frameworks to create transparency for consumers and throughout the value chain. There is a need for action by the state with respect to labelling obligations in digital space. For example, the labelling of hazardous substances in products in stationary trade is already more advanced than the corresponding labelling of products in online trade. A further finding is that the incentives for the provision of information for businesses should be considered. Labelling requirements for individual sustainability characteristics only set incentives for product improvements with these very characteristics and can possibly even lead to deterioration in other dimensions. The working group saw a need for research into the long-term effects of communication and information instruments that can be used to promote sustainable consumption and their application in digital space.

Working group 2 dealt with the topic of consumer responsibility and typologies, as well as the limits of communication and information instruments, in keynote speeches and subsequent discussion. Media-influencing factors affecting sustainable consumption and the case study of Bioplastics (purchasing intention and consumer choice) were also addressed. The central finding of the working group was that consumption not only has a "private" dimension, but in particular also a "social" dimension. The working group called for consumers to be given greater responsibility. In addition, the channels for the provision of information to consumers should be extended. As a policy option, the working group formulated a demand for "harder" instruments and framework conditions that exclude unsustainable products from the market. The working group saw a need for research to address the challenge of how information to consumers should be prepared/formulated when the consumers have no interest in this information. There would also be a need for research on how to increase consumers' sense of responsibility and how to reduce the often attested gap between consumer attitudes and behaviour – the so-called "Value Action Gap".

Working group 3 dealt with the issue of measuring, processing and disseminating sustainability information. Keynote speeches dealt with the challenges of the sustainability assessment, the design of transparent food supply chains as well as sustainability communication along the value chain of bioplastics. Further impetus was provided by the retail sector as a driving force behind higher standards in the food industry and the transfer of data on ingredients in global supply chains – the way towards a cross-sector standard. Against the background of the challenge of more sustainable nutrition and its transparency implications, the group proposed a kind of "REACH Regulation" for nutrition as a design option. REACH establishes for the area of chemical management a "learning system" in which authorities and companies develop strategies and concrete measures for "adequate risk management", based on data collected by manufacturers and importers. The idea is to develop a similar system for the food sector. The cornerstones of such a regulatory architecture would be information, communication and cooperation along the supply chains, the provision of information vis-à-vis a broad public via databases and information rights as well as comprehensive inclusion instruments, e.g. for actors from civil society and research. Applied to the field of nutrition, the system could provide full transparency on the quality of food (production, additives, etc.) and thus promote market impulses for sustainable development. The working group identified a need for action about the complexity of B2B information transfer along the value chains, not only in the food context, but in relation to all flows of goods. To that end, it could be a Full Material Declaration that enables proactive companies to provide the relevant information from their supply chains. It is also important to encourage innovative retailers and to take into account new purchasing channels such as online supermarkets and their specific requirements when providing information. Regarding the dissemination of sustainability information to consumers, the group stressed the need to reduce the flood of labels on products intended to help consumers find their way. The group identified a need for research regarding a reduction to one information label/seal, the challenges of strengthened consumer sovereignty for sustainable development and blockchain technology as a solution for more transparency.

Working group 4 discussed intermediaries for the provision of information. Impulse lectures addressed the representation of science in environmental policy decision-making processes and WikiREACH as an instrument for bridging the science policy gap in chemicals regulation. Other topics included online platforms for mutual exchange between EU agencies and public science, as well as an industry solution in

tourism. The group recommended problem and actor-adequate Science Policy Interfaces. In addition, existing incentives in the science system should be taken into account and changed. New formats for publications should be established. As an example, "consensus papers" were cited, while publishers of journals should also be won. Integration into teaching is also desirable. In addition, the working group formulated a recommendation for action in which instruments should be developed together with stakeholders to make market opportunities for sustainable development visible. Industry solutions can help to overcome these obstacles. The working group considered the further research demand for the approaches of the Science Policy Interfaces and in the market opportunities for sustainable development.

After the presentation of the results from the working groups, two further presentations followed on the following day.

Since Axel Lienhard, design and brand management at Edeka Southwest was unable to attend on short notice, Prof. Dr. Kilian Bizer, Director of the ifh Institut für Mittelstand und Handwerk at the University of Göttingen, presented his lecture on market opportunities for sustainable management through transparency. The central message of the presentation by Mr. Lienhard was that the sale of organic products at Edeka is successful. Edeka has accordingly aligned its product range and established various own brands such as "Hofglück", which are committed to animal-friendly husbandry. In addition, Edeka has long-term cooperation agreements with farmers to reduce the market risk for them. It also has several "sustainable private brands" to address different customer groups. In addition, Edeka is currently introducing a new sustainability seal named “Handlungswegweiser”. This is intended to provide customers with orientation on the quality of animal husbandry.

This was followed by a lecture by Ulrike Kallee, Team “substances and technologies” of the Bund Umwelt und Naturschutz Deutschland (BUND). Ulrike Kallee presented the ToxFox App, which aims to make harmful substances in cosmetic products visible to consumers. All the consumer has to do is scan the barcode of a cosmetic product. There are currently 1.4 million downloads of the app and 35 million scans of individual products. Many customers first became aware of the topic through the ToxFox App. Ulrike Kallee pointed out that the REACH regulation gives consumers the right to information on harmful substances in products other than cosmetics, e.g. textiles, toys, electrical and sports equipment. However, the right to information is not particularly consumer-friendly in REACH. ToxFox therefore has the additional function of barcode scanning of consumer inquiries for Article 33 (2) REACH with regard to substances of very high concern in articles. Responses from businesses are stored in a database and immediately available to consumers. In addition, companies can proactively provide information about their products in the ToxFox database. The aim is to facilitate communication between consumers and and companies, as well as to encourage companies to stop using harmful substances. As part of the EU LIFE project "AskREACH", a Europe-wide app for inquiries under Art. 33 (2) REACH will be also developed. Ulrike Kallee stressed that these developments stimulate communication within the supply chain, but that there was great uncertainty in the industry about the presence of pollutants in products. BUND experienced that many companies, after receiving a request, send the corresponding products for the first time to a test laboratory for chemical analysis in order to be able to give the consumer the desired information. However, it is legally required that all actors in the supply chain communicate continuously and actively, in order to eliminate problematic substances from the products.

In the concluding panel discussion, Dr Hyewon Seo of the Federal Environment Agency (UBA) pointed out problems associated with the term sustainability. The term has arrived in society, but actors use the term in different ways. A way to promote sustainable development is to identify top runners on the company side who set standards and pull other players along with them. With regard to consumers, she emphasised the challenges of a consumer-based approach/education. A larger proportion of consumers are currently not reachable regarding the topic of sustainability. Prof. Dr. Ludwig Theuvsen, Head of the Department of Agriculture, Agricultural Policy and Sustainability at the Ministry of Food, Agriculture and Consumer Protection of Lower Saxony, emphasised that consumers have heterogeneous preferences with regard to sustainability. These are particularly pronounced among a relatively small group of consumers with an above-average level of education. In addition, the purchase of groceries is a largely habitualized process characterized by behavioural heuristics. Sustainability labels directly on the product and with corresponding information are therefore better suited as a solution than an app. Due to their market power and proximity to consumers, Theuvsen assigns the large retail chains a special position in the food sector. Sustainability has arrived in retail as a business model, but due to the lack of general consumer awareness, there are often only selective improvements in individual product areas (e.g. fair trade coffee). Theuvsen continues to note an

increasing decline in nutritional knowledge, which makes sustainable consumption more difficult. On average, Theuvsen sees an increase in "unsustainable" consumption patterns such as "ultra discounts", also in the area of textiles and air travel.

Conference chairman Dr. Joachim Lange from the Loccum Academy guided the discussion by asking the following question: What can transparency achieve and where are the limits?

Dr. Hyewon Seo responded by saying that transparency is needed when trust is not present. If there is confidence, consumers would also be willing to pay a higher price for more sustainable products. As an example, she cites the rising sales of regional products, which are usually more expensive but enjoy greater consumer confidence. She also stressed the importance of science, as it creates knowledge for industry. Prof. Dr. Ludwig Theuvsen emphasized the importance of a mix of instruments using animal welfare as an example. The legislator can set a minimum standard as a regulatory instrument by the animal protection law. Although regulatory law also follows social trends (e.g. in piglet castration), if the customers are not willing to pay, it would quickly lead to a migration of production abroad. Regulatory measures or levies usually lead to poorer competitiveness. In such a situation, government support would be needed to provide incentives for producers and trade. Transparency for consumers can also create fair competitive conditions, but only lead to more sustainability if there is a willingness to pay. In addition, Theuvsen stressed the difficulty of sustainability assessment not only for consumers. These would often be based on heuristics such as "organic" or "regional". However, a regional product is not always more sustainable than an imported product.

Prof. Dr. Kilian Bizer explained that a lot can be learned from chemicals policy. The entire system is at stake and requires an overall reliable information architecture. The state must provide this architecture and it must be consumer-oriented. Under these circumstances, transparency could enable market differentiation and open up market opportunities for more sustainable products and business models. As one result of the conference, he formulated the demand to create an institutional framework for the food sector similar to that for chemicals; here, too, it is important to stimulate the self-responsibility of the actors through a "learning system". Approaches in this direction can be found in the European Commission's proposal on transparency risk information for food (COM(2018) 179), but further steps need to be taken.

In his closing remarks, Prof. Dr. Martin Führ emphasized: If changes towards sustainable development are to be promoted, the state is not a troublemaker – especially from the perspective of proactive companies – but rather the one who provides the framework conditions for sustainability-oriented business models to succeed. This view gives the debate on regulation a different twist. He emphasized that companies should understand market opportunities as they are. In this sense, transparency is also a prerequisite for economic incentives to provide impulses that influence behaviour. The state is, however, overburdened in its attempts to prescribe concrete steps towards the Sustainable Developments Goals: The SDGs rather formulate a normative orientation framework for social search processes. The interfaces between science and regulatory practice ("Science Policy Interfaces") should be designed in such a way that enquiries and answers can be made in both directions. This is an important building block for ensuring the ability of the regulatory and administrative system to learn. This has to be completed by accompanying legal impact research, which periodically and systematically evaluates whether the legal framework achieves the intended objectives effectively and efficiently, in order to be able to make adjustments if necessary.

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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Institut für angewandte Ökologie
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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.
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I·E·S·A·R
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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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sofia

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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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, focussing 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 researches, 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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