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## REVIEW

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Gene drives and the EU

*Ludwig Krämer*

The Hoge Raad judgment of 20 December 2019 in the Urgenda case: an overcautious policy for reducing GHG emissions breaches Articles 2 and 8 of the European Convention on Human Rights

*Nicolas de Sadeleer*

Better reporting of science to improve regulatory decision-making

*Marlene Ågerstrand*

Forest and forestry policy between the EU and its Member States

*Marco Onida*

Recent Developments

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## Editorial

2020 – it was a year of transformations. At its beginning, before the Corona Pandemic hit hard in March, the editors of *elni Review* decided to further develop the journal into an electronic resource. Since then, individual articles have been shared with elni members and subscribers to the *Review* on a rolling basis. These are now compiled in the *Review* issue at hand.

In parallel, the online archive of elni articles released since 2005 received a comprehensive update which is expected to be completed in 2021.

Another 2020 transformation regards the ‘elni FORUM’ conference series which, as is considered good form by now, took place online on a whole cycle of events under the umbrella topic ‘Green Deal – A way forward for EU environmental legislation?’. 2021 will see a new cycle of elni events. Details will be shared soon.

The Recent Developments section features a report of the 2020 elni event on ‘Product policies for a Circular Economy’. Further details on this and the other two fora (including recordings, slides) can be found online.

The articles section of the *Review* comprises four highly topical pieces. *Ludwig Krämer* examines the legality of gene drive releases – that are an emerging issue since the discovery of the CRISPR/Cas9 method in 2012 – within the EU and describes the efforts to find some international consensus on gene drive releases.

*Nicolas de Sadeleer* addresses the Dutch Hoge Raad judgment of 20 December 2019 in the Urgenda case,

which triggered broad international response. He finds ‘An over-cautious policy for reducing GHG emissions breaches Articles 2 and 8 of the European Convention on Human Rights’.

At the interface of science and policy, *Marlene Ågerstrand* in her contribution ‘Better reporting of science to improve regulatory decision-making’ explains recommendations by The Society of Environmental Toxicology and Chemistry (SETAC) for reporting ecotoxicity studies to facilitate the use of these studies in research as well as regulatory assessments.

Finally, as trees and forests in Europe are entering centre stage in public opinion and the European Green Deal creates political impetus, *Marco Onida* is taking stock as regards ‘Forest and forestry policy between the EU and its Member States’.

We hope you enjoy reading.

*Julian Schenten / Gerhard Roller*  
December 2020

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## Better reporting of science to improve regulatory decision-making

Marlene Ågerstrand

### 1 Introduction

The Society of Environmental Toxicology and Chemistry (SETAC) introduces recommendations for reporting ecotoxicity studies. The purpose of this is to facilitate the use of these studies in research as well as regulatory assessments. Compliance with these reporting recommendations will depend on individual researchers as well as scientific journals' willingness to adopt and promote them.<sup>1</sup>

### 2 Data evaluation can be controversial

Decision-making should be based on all available scientific studies, provided that the studies are in line with the regulatory requirements and are of sufficient reliability and relevance. This applies to many different areas, including the regulation of chemicals (e.g. REACH (EC) No 1907/2006), and few would argue against it. However, the practical meaning of this has proven to be far from easy to agree on when assessing chemical risks, resulting in far-reaching and extended conflicts and controversies. Past and more recent examples include the herbicides atrazine and glyphosate, the plasticizer bisphenol A, the flame retardant decaBDE, and the pesticide chlorpyrifos<sup>2</sup>. Setting aside that these are high-volume chemicals and thereby of economic interest for individual companies as well as countries, the conflicts and controversies can be understood from the perspective of data evaluation. For all of these chemicals, there have been lengthy discussions regarding which (eco)toxicity studies, associated test species, endpoints and test designs to include when assessing risks.

### 3 Academic research vs. studies generated by industries

Conflicts have often occurred between regulatory studies conducted by commercial contract laboratories and funded by chemicals producers, and state-funded

studies by academic researchers or independent research institutes. The two often use different experimental models. Regulatory studies are performed according to standardized test guidelines, while academic research can use a wide array of different methods which may be more sensitive because of the test species, endpoint or test design used. The aim of the former is to fulfil legal test requirements, while the latter seeks to study effects. These differences result in a situation where academic research sometimes shows adverse effects at lower concentrations, i.e. indicating a higher risk, compared to the regulatory studies. Results from academic research can therefore have significant consequences for the assessment of both the size and nature of risk. Including academic research and assigning it proper weight can mean the difference between approval and a complete restriction of the chemical.

### 4 Current regulatory system for data evaluation

EU chemicals legislation currently provides little explicit guidance on how to interpret and make use of scientific studies. Instead, "post-legislative rule-making" is practiced through the use of guidance documents and experts performing and evaluating chemical assessments. This puts demands on transparency and raises concerns regarding influence from different expert views in the data evaluation. Methods that promote a more structured and transparent process for data evaluation have been put forward<sup>3</sup>. The problem of insufficient reporting of scientific studies is not limited to (eco)toxicity studies. Concerns have also been raised in other research areas, such as biomedical research and epidemiology in combination with suggestions for structured reporting recommendations<sup>4</sup>. In the area of ecotoxicology, reporting recommendations have been suggested but, until recently, there has been no generally accepted method within the research field<sup>5</sup>.

<sup>1</sup> The author would like to thank Martin Führ, Christina Rudén and Zhanyun Wang for valuable comments on the manuscript.

<sup>2</sup> Alcock, MacGillivray, and Busby. Understanding the mismatch between the demands of risk assessment and practice of scientists – the case of Deca-BDE. *Environ. Int.* (2011) 37, 216–225. Beronius et al. Risk to all or none? A comparative analysis of controversies in the health risk assessment of bisphenol A. *Reprod. Toxicol.* (2010) 29, 132–146. Boone et al., Pesticide regulation amid the influence of industry. *BioScience*, (2014), 64(10), 917–922. Portier et al. Differences in the carcinogenic evaluation of glyphosate between the International Agency for Research on Cancer (IARC) and the European Food Safety Authority (EFSA). *J Epidemiol Community Health* (2016) 70(8), 741–745. Mie, Rudén, and Grandjean. Safety of Safety Evaluation of Pesticides: developmental neurotoxicity of chlorpyrifos and chlorpyrifos-methyl. *Environmental Health* (2018) 17, 77.

<sup>3</sup> Moermond et al. CRED: Criteria for reporting and evaluating ecotoxicity data. *Environmental Toxicology & Chemistry* (2016) 35(5), 297–1309. Beronius et al. Testing and refining the Science in Risk Assessment and Policy (SciRAP) web-based platform for evaluating the reliability and relevance of in vivo toxicity studies. *J Appl Toxicol.* (2018) 38:1460–1470.

<sup>4</sup> Vandebroucke et al. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *PLoS Med* (2007) 4:e297. Percie du Sert et al. The ARRIVE guidelines 2019: updated guidelines for reporting animal research. *bioRxiv* (2019) doi: <https://doi.org/10.1101/703181>.

<sup>5</sup> Ågerstrand. In Response: Reporting recommendations to ensure reliability and reproducibility of ecotoxicity studies—A tripartite initiative. *ET&C Perspective* (2016) 35(5), 1072–1073.

Thus, gaps between the findings reported in the academic research and regulatory assessments have been identified. These gaps are particularly relevant in those regulations where industry actors are primarily responsible for ensuring that risks are “adequately controlled”, such as under the REACH regulation. Excluding academic research not only undermines the regulatory concept of “self-responsibility”<sup>6</sup>. Even in cases where public bodies perform the assessment, efforts to bridge the gap would contribute to the goal of balanced science-based decision-making. The long story of “late lessons from early warnings”<sup>7</sup> suggests that more attention be given to research results not funded by the industry, since academic studies can use more sensitive test species, endpoints and test designs, and thereby determine a higher risk for a chemical. This is even more relevant vis-à-vis the precautionary principle as formulated in Section 15 of the Rio Declaration, the European Treaties (Art. 191(2)2 TFEU) as well as in the secondary EU legislation (e.g., in Art. 1(3)2 REACH).

## 5 Why is academic research dismissed?

Common reasons for excluding or assigning little weight to academic research in chemical assessments include:

- *the reliability*, i.e. the inherent scientific quality, of the study has been questioned. For example, the study has been considered too small, i.e. having insufficient statistical power, or the mortality is too high in the control group and the performance of the study is inadequate, and the results can therefore not be trusted<sup>8</sup>.
- *the relevance*, e.g. how the studied endpoint is related to the survival of a population, is questioned and therefore the study is not considered to be suitable for the particular assessment being performed<sup>9</sup>. Other examples related to relevance of a study are the failure to use sensitive test species that are representative for the ecosystem where exposure occurs, or the failure to study appropriate life stages<sup>10</sup>.
- the reporting of the method and results is insufficient. Regulatory studies are reported in a highly structured way that differs from the reporting of academic research in international

peer reviewed journals. If major or crucial parts of a study are not reported according to the regulatory requirements, data evaluation is prevented and the potential use of its findings in chemical assessments is hampered<sup>11</sup>.

Excluding academic (eco)toxicity studies from chemical assessments due to insufficient reliability and reporting is a waste of resources and test animals, results in incomplete decision support, and may affect the trust and credibility in academia as well as the regulatory system. This is an unwanted and unnecessary outcome of a situation that could be easily improved if reporting recommendations were followed.

## 6 SETAC suggests reporting recommendations for ecotoxicity studies

SETAC, short for the Society of Environmental Toxicology and Chemistry, is one of the largest worldwide organisations connecting professionals working on the research, development and management of environmental problems and natural resources. Their main activities are to organise international and regional meetings and workshops, and to publish scientific papers in their two peer-reviewed journals. Because of this, SETAC has become an important platform for networking and the exchange of ideas for academia, the industry, regulatory agencies and non-governmental organisations. SETAC supports open data, meaning that published studies should be complete, accessible and reusable. As part of their work on this, SETAC published a Technical Issue Paper in 2019 titled “Recommended Minimum Reporting Information for Environmental Toxicity Studies”<sup>12</sup>. This work adheres to the FAIR Data Principles specifying that data should be findable, accessible, interoperable and reusable<sup>13</sup>. The reporting recommendations consist of 53 specific information criteria divided into the following categories: study design, test subject, stressor, exposure conditions, response, data and analysis, notes, and disclosures. The information criteria represent common aspects relevant for ecotoxicity studies and it should therefore not be difficult for authors to comply with them if studies are designed, performed and analysed using a robust scientific methodology. The reporting recommendations were developed in collaboration with

<sup>6</sup> Führ and Bizer. REACH as a paradigm shift in chemical policy - responsive regulation and behavioural models. Journal of Cleaner Production (JCLP), 15, 2007 (4), 327-334.

<sup>7</sup> European Environmental Agency. Volume 1: Late lessons from early warnings: the precautionary principle 1896–2000 (2002). Volume 2: Late lessons from early warnings: science, precaution, innovation (2013).

<sup>8</sup> Moermond et al. *op. cit.*

<sup>9</sup> Ågerstrand et al. Emerging investigator series: use of behavioural endpoints in the regulation of chemicals. Environ. Sci.: Processes Impacts (2020) 22, 49-65.

<sup>10</sup> Moermond et al. *op. cit.*

<sup>11</sup> Harris and Sumpter. Could the Quality of Published Ecotoxicological Research Be Better? Environ. Sci. Technol (2015) 49(16):9495–9496; Ågerstrand, Edvardsson, and Rudén. Bad Reporting or Bad Science? Systematic Data Evaluation as a Means to Improve the Use of Peer-Reviewed Studies in Risk Assessments of Chemicals. Human and Ecological Risk Assessment: An International Journal (2014) 20, 6.

<sup>12</sup> SETAC. Technical Issue Paper: Recommended Minimum Reporting Information for Environmental Toxicity Studies. (2019). Pensacola (FL): SETAC. 3 pp.

<sup>13</sup> Wilkinson et al. The FAIR Guiding Principles for scientific data management and stewardship. Scientific Data (2016) 3: 160018.

eight experts representing academia, the industry and regulatory agencies.

## 7 Expected result from use of reporting recommendations

Improved reporting of (eco)toxicity studies has the potential to:

- *Improve the reliability and reproducibility of research studies*

While a thoroughly reported study is not necessary a good study from a scientific point of view, implementing reporting recommendations has the potential to influence how a study is designed, performed, analysed and reported. For example, if you need to report on detailed aspects of the test design it is more likely that these aspects will be of higher quality since it is otherwise clear that your study is scientifically flawed.

- *Improve the decision support in the regulation of chemicals*

Since insufficient reliability and reporting of academic research are two of the reasons why studies are excluded from chemical assessments, improved reporting could potentially alter this situation and provide decision support with a higher number of academic studies. This would potentially mean that a wider range of test species, test designs and test endpoints, possibly of high relevance, are represented in assessment reports and conclusions. Conflicts regarding which studies to use could thus also decrease, potentially leading to shorter regulatory processes.

It is too early to assess, and difficult to predict, the effects of the SETAC reporting recommendations on the reporting and reproducibility of ecotoxicity studies in peer-reviewed journals, as well as the subsequent use of these studies in chemicals regulations. The success rate will likely depend on how the recommendations are received by individual researchers, as well as scientific journals. So far, the SETAC reporting recommendations have been added as a resource for the authors of the journal "Environmental Toxicology & Chemistry"<sup>14</sup>, and the SETAC Data Transparency Policy refers to the SETAC Open Science page where the reporting recommendations are listed<sup>15</sup>. The reporting recommendations are however still missing in the journal's submission instructions. The fact that insufficient reporting of studies has only recently caught the attention of the SETAC and others indicates that regulatory use of academic research has not been prioritized, and that there is a lack of understanding of

how research results can be used in chemicals regulation<sup>16</sup>.

A study investigating the use of basic reliability criteria by scientific journals found that only one out of 32 journals provided guidance to authors regarding statistical analysis (e.g., adequate replication), analytical verification of exposure concentrations, and the availability of supplemental information<sup>17</sup>. A lack of understanding of the implications of insufficient reporting has also been shown in other research fields<sup>18</sup>, and the effects of the use of reporting recommendations have been examined. In a study investigating compliance with the widely accepted ARRIVE guidelines, no manuscript was found to comply fully and overall compliance was low<sup>19</sup>. A similar study investigating the improvements in reporting in the scientific journal Nature after adoption of a reporting checklist showed an increase from 0% to 16% in the four measured parameters: randomisation, blinding, sample size estimation and data handling<sup>20</sup>. In a third study comparing the reporting in Nature to the reporting in the scientific journal Cell, where no checklist was used, it was concluded that reporting improved when using a checklist<sup>21</sup>. Altogether, these studies indicate that providing reporting recommendations is a first step towards the improved reporting of studies, although it is not a guarantee for complete reporting of studies. The studies above did not assess how actively the checklist was enforced by reviewers and editors. Potentially, this could contribute to improvements in the reporting. However, adding an additional resource-demanding task to the already somewhat fragile and tense peer-reviewed system might not be feasible. Instead, a more automatized process could be a potential way forward. Building an understanding among researchers about the importance

<sup>16</sup> Ågerstrand et al. An academic researcher's guide to increased impact on regulatory assessment of chemicals. Environ. Sci.: Processes Impacts, (2017) 19, 644.

<sup>17</sup> Hanson et al. How we can make ecotoxicology more valuable to environmental protection. Science of the Total Environment (2017) 578:228-235.

<sup>18</sup> Hurst and Percie du Sert. The ARRIVE guidelines survey. Open Science Framework. (2017). doi: <https://osf.io/g8t5q/register/565fb3678c5e4a66b5582f67>. Fraser et al. Questionable research practices in ecology and evolution. PLoS One. (2018) 13(7):e0200303. The Academy of Medical Sciences. Reproducibility and reliability of biomedical research: Improving research practice. (2015). Available from: <https://acmedsci.ac.uk/policy/policy-projects/reproducibility-and-reliability-of-biomedical-research>.

<sup>19</sup> Hair, Macleod, and Sena. A Randomised Controlled Trial of an Intervention to Improve Compliance With the ARRIVE Guidelines (IICARus). Res Integr Peer Rev (2019) 12:4:12.

<sup>20</sup> The NPQIP Collaborative group. Did a change in Nature journals' editorial policy for life sciences research improve reporting? BMJ Open Science (2019) 3:e000035.

<sup>21</sup> Han et al. A checklist is associated with increased quality of reporting preclinical biomedical research: A systematic review. Plos One (2017) doi.org/10.1371/journal.pone.0183591.

<sup>14</sup> <https://setac.onlinelibrary.wiley.com/hub/journal/15528618/author-guidelines>.

<sup>15</sup> [https://www.setac.org/resource/resmgr/Publications\\_and\\_Resources/SETAC-data-transparency-poli.pdf](https://www.setac.org/resource/resmgr/Publications_and_Resources/SETAC-data-transparency-poli.pdf).

of thorough reporting of (eco)toxicity studies is vital both from a scientific and regulatory point of view.

## 8 The way forward

It may seem strange that insufficient reporting of (eco)toxicity studies remains a problem in peer-reviewed literature given the rather easy solution, but old habits do not change overnight. To breathe life into reporting recommendations actions are needed. Ways forward could include:

### 1) Make it known

Even though providing information is rarely enough to change people's behaviour<sup>22</sup>, it is the first step to creating awareness of the problem of insufficient reporting. Informing individual researchers working in this field is a never-ending task. A more strategic approach would be to identify and join forces with gate keepers and key players such as scientific journals, international organisations, funding agencies, and teachers of future generations of ecotoxicologists.

### 2) Make it easy

Since change is difficult, even when we know it is needed and beneficial, we need a system that supports and promotes detailed and transparent reporting of ecotoxicity studies, while at the same time not interfering with the research idea. Reporting specific methodological issues in a separate pre-prepared file has been suggested as one way forward<sup>23</sup>. This would also be an easy way for scientific journals to identify manuscripts not fulfilling the reliability and reproducibility requirements.

### 3) Make it rewarding

Societal use of research results is an important driver for many researchers as well as funding agencies. There are many factors that come into play when studies are selected for regulatory use (e.g. open access, relevance of the study in relation to the chemical assessment being performed), and just as a thoroughly reported manuscript is more likely to get published in a scientific literature it is more likely to be accepted for use in chemicals regulation. One potential additional motivator for the research community could be if research results published in the peer-reviewed literature are automatically connected to ongoing regulatory activities, such as registration or restriction dossiers in REACH. Such a function or tool has been suggested to improve the regulatory use of peer-reviewed studies without increasing the risk assessors' burden of searching for research studies<sup>24</sup>.

### 4) Make it obligatory

If a job's worth doing, it's worth doing well. This is even more true in times when the credibility of science is being questioned. Therefore, it might be reasonable to not only recommend but also demand detailed reporting of ecotoxicity studies in the peer-reviewed literature. This might result in fewer studies being published due to increasing costs, but this is not necessarily a bad development.

## Conflict of interest statement

Ågerstrand has suggested the WikiREACH tool<sup>25</sup>, developed the CRED-method<sup>26</sup>, and was part of the expert group developing the SETAC reporting recommendations<sup>27</sup>.

<sup>22</sup> Anthes 2015. Hospital checklists are meant to save lives — so why do they often fail? Nature news feature: <https://www.nature.com/news/hospital-checklists-are-meant-to-save-lives-so-why-do-they-often-fail-1.18057>.

<sup>23</sup> Moermond et al. *op. cit.*

<sup>24</sup> Ågerstrand et al. Refining tools to bridge the gap between academia and chemical regulation: perspectives for WikiREACH. Environ. Sci.: Processes Impacts (2017) 19, 1466.

<sup>25</sup> Ågerstrand et al. Refining tools to bridge the gap... *op. cit.*

<sup>26</sup> Moermond et al. *op. cit.*

<sup>27</sup> SETAC. *op. cit.*

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## Imprint

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**Editors in charge of the current issue:**  
Gerhard Roller and Julian Schenten

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The Editors would like to thank **Michelle Monteforte** (Öko-Institut) for proofreading the *elni Review*.

We invite authors to submit manuscripts to the Editors by email to [info@elni.org](mailto:info@elni.org).

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



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

The institute's mission is to analyse and evaluate current and future environmental problems, to point out risks, and to develop and implement problem-solving strategies and measures. In doing so, the Öko-Institut follows the guiding principle of sustainable development. The institute's activities are organized in Divisions - Chemistry, Energy & Climate Protection, Genetic Engineering, Sustainable Products & Material Flows, Nuclear Engineering & Plant Safety, and Environmental Law.

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

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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.

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

The Institute fulfils its assignments particularly by:

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

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

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

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

The areas of research cover

- Product policy/REACH
- Land use strategies
- Role of standardization bodies
- Biodiversity and nature conservation
- Water and energy management
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## elni

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

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

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

### Coordinating Bureau

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

### elni Review

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

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

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

### elni Conferences and Fora

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

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

### Publications series

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

### elni Website: [elni.org](http://www.elni.org)

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

### elni Board of Directors

- Martin Führ - Society for Institutional Analysis (sofia), Darmstadt, Germany;
- Jerzy Jendroska - Centrum Prawa Ekologicznego (CPE), Wroclaw, Poland;
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- Gerhard Roller - Institute for Environmental Studies and Applied Research (I.E.S.A.R.), Bingen, Germany.

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