Scientific knowledge in environmental judicial review: Safeguarding effective judicial protection in the EU Member States

Foreword

Scientific Knowledge in Environmental Judicial Review: Safeguarding Effective Judicial Protection in the EU Member States?

Tiina Paloniitty and Mariolina Eliantonio**[1]*

I. Introduction

Environmental judicial review is characterised by the fact that much of its content is based on complex scientific assessments made by the administrative authorities while they, for example, estimate the environmental impacts of planned projects and consider the permit conditions. Controversies are often born out of disagreements on a certain technical or scientific assessment made by the authorities, which, in turn results – in the view of applicant(s) or other involved parties – in the violation of environmental law. The question is innate to environmental regulation, where often open-ended and general legal norms are concretized in scientifically detailed annexes or subordinate legislation.[2] These characteristics of environmental regulation yield factual disputes, which bring to fore one of the key elements of judicial review: to which extent a court can evaluate administrative authorities' stances on scientific questions pertinent to solving the substance matter.[3]

Special needs that environmental judicial review entails have for long been recognized.[4] The scientific expertise needed when adjudicating environmental matters has for example given grounds for establishing special environmental courts or tribunals (ECTs), because they are perceived as capable of offering a better platform for judges to thoroughly understand the matters with which they deal.[5] The benefits are not necessarily restricted to having environmentally literate judges to begin with or allowing judges to specialize in environmental matters only, but also vesting them with adequate access to scientific expertise needed when adjudicating such cases. In-house technical experts develop the ECTs internal expertise on the matters they solve.[6]

European countries are known for their reluctance towards establishing ECTs: this is because the discipline of environmental law has been found to have limited independence to justify a special court; or because environmental protection is not mentioned in many national constitutions, and the judicial system in general is preferred as intact.[7] At the same time, the Member States of the European Union are bound, through Article 47 of the Charter of Fundamental Rights and the general principle of effective judicial protection, to ensure effective remedies when EU (enviromental) law is violated. The question which arises is, however, whether the current standard of review employed by the national competent courts and their possibility to access the necessary scientific expertise to solve the environmental disputes they are seized of, ensure effective protection of EU environmental law.

This Special Issue explores several national perspectives on the standard of review, and access to scientific expertise in environmental judicial review before national courts. The examination is conducted in order to answer two overarching research questions: first, whether in the respective legal systems the EU principle of effective judicial protection is guaranteed, and second, whether the current differences in the law and the practice of the various legal systems might

* Tiina Paloniitty, Dr. (University of Helsinki)
** Mariolina Eliantonio, Professor of European and Comparative Administrative Law and Procedure (Maastricht University)

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[2] Environmental law as "law of principles", with surfeit of normative material, frequent use of principles and openeded legal norms, allows for judiciary's emphasized role, Domenico Amirante, "Environmental Courts in Comparative Perspective: Preliminary Reflections on the National Green Tribunal of India" (2012) *Pace Envtl. L. Rev.* 29(2) 441, 444.

[3] Obviously emphasis on judicial review does not originate solely from the characteristics of environmental law; the propensity is more catholic, drawing from the manner in which modern welfare-oriented societies tend to be governed, as explained in the British context in Mark Elliott, *The Constitutional Foundations of Judicial Review* (Hart 2001) 2–3.

[4] Brian J. Preston, "Characteristics of successful environmental courts and tribunals" (2014) *Journal of Environmental Law* 26(3) 365, 365. The estimates on the current amount of ECTs across the globe vary from 350 to over 400, Nicholas Robinson, "Ensuring Access to Justice Through Environmental Courts" (2012) *Pace Envtl L Rev* 29(2) 363, 381. For an extensive report on the ECTs, George Pring and Catherine Pring, Greening Justice: Creating and Improving Environmental Courts and Tribunals (The Access Initiative 2009) – for critique on some of its findings, see Paloniitty and Kangasmaa's article in this Special Issue.

[5] Domenico Amirante and Pasquale Viola, "The Growing Role of Expert Members in Environmental Adjudication: The Case of the Indian National Green Tribunal" (2017) *Transnational Dispute Management* 14(2). Also, desire for environmental justice as one reason behind the ECTs as they exemplify a local, grassroots approach to environmental degregation, Robinson, *PaceLR* 2012 (n 4) 364.

[6] Preston 2014, *JEL* (n 4) 377.

[7] Also, the urge to see judges as generalists has had its impact, Amirante, 2012 *PaceLR* (n 2) 446–7.

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impair the uniform and effective enforcement of EU environmental law. At a practical level, it should stressed that the issue of access to scientific knowledge in environmental judicial review is closely linked to the standard (ie the intensity) of review which courts in environmental matters feel entitled or obliged to exercise. One might be inclined to think that the deeper the review of the facts and the scientific assessments made by the administration is in a certain legal system, the wider the powers of courts to avail themselves of help to understand those very facts and assessments. This Special Issue examines whether this assumption is correct and, specifically, the relation between the standard of review, the activity of investigation the courts exercise, and their access to scientific expertise when dealing with matters considered environmental.

Due to the European context, in the limelight in this Special Issue are not the ECTs, but the general administrative courts that deal with environmental matters: in all the legal systems examined, environmental cases are taken to courts adjudicating a broad range of administrative matters.[8] However, even though not formally being ECTs, within some of these courts some modifications have been made for the environmental issues to secure sufficient access to scientific expertise – this is the case e.g. in Finland and in the Netherlands.[9] A noteworthy exception to the European practice would be Sweden that has ECTs. Interestingly, due to historical reasons, Sweden's manner of having of "in-house expert judges' is in essence similar with that of Finland – thus scientific expertise is present in the court deliberations in both countries indistinguishably although the court systems differ.[10]

By concentrating on the scientific knowledge in environmental judicial review, the topic at hand is one concrete example of the challenges that science and law interface yields. Relation between science and law has been widely examined in the policy context and from the legislator's point of view.[11] In this Special Issue we are not addressing that aspect in the administrative legal systems nor the reality in courts when they are obliged to choose between diverse scientific knowledge that administrative authorities, operators, NGOs or other parties produce.[12] In the national analyses, the focus is on whether the courts can, may, or must review the administration's evaluation on the matter's scientific aspects, and whether they have sufficient access to relevant expertise. The requirements that EU law sets for national procedural rules on this topic are also studied, as is the compatibility of the Member States' solutions with them.

In this foreword, the national solutions are summarized with an aim to explain the variations concerning the standard of review, activity or initiative in the inquiry the courts are entitled to take, and their possibilities to access to scientific expertise and knowledge. The EU requirements and national solutions are explained and contrasted in order to find out which of the solutions could be considered as compatible with Union law. Subsequently, these analyses will be complemented with an empirical perspective by discussing the results of a case study presented to four national judges. Finally, a conclusion will be reached on the two overarching research questions.

II. A Glance beyond the EU: India and Australia

Before embarking onto the comparative analysis, a glimpse to the broader world seems to be in order. To this end, the examples of India and New South Wales are particularly relevant.

India entertains a rather interesting solution in this regard with its National Green Tribunal ("the NGT"). Having operated from 2011, the NGT is a relatively young institution and the process towards it exemplifies well the general reasons for initiating an ECT.[13] Its

[8] Even though not formally ECTs, *de facto* specialization takes place in these general administrative courts, as a large percentage of the matters they consider relate to the environment, Amirante 2012, *PaceLR* (n 2) 449, fn 11, referring to Luc Lavrysen, "The Role of National Judges in Environmental Law", *Int'l Network for Envt'l Compliance and Enforcement* 6 (2006). The article on Finland in this Special Issue well supports this argument.

[9] Amirante, 2012 *PaceLR* (n 2) 448.

[10] For a closer comparison, see the article on Finland and, for further insight, expert judge Rolf Svedberg's commentary piece immediately after it in this Special Issue.

[11] Maria Lee *EU environmental law: challenges, change and decision-making* (Hart 2005); Hans W. Micklitz and Takis Tridimas *Risk and EU Law* (Edward Elgar 2015); Marjolein Van Asselt, Michelle Everson and Ellen Vos (eds) *Trade, Health and the Environment: the European Union Put to the Test* (Routledge 2013); Christian Joerges, Karl-Heinz Ladeur and Ellen Vos (eds) *Integrating Scientific Expertise into Regulatory Decision-Making – National Experiences and European Innovations* (Nomos Verlagsgesellschaft Baden-Baden1997). See also the literature quoted in Gitanjali Nain Gill, "Environmental Justice in India: The National Green Tribunal and Expert Members" (2016) *Transnational Environmental Law* 5(1) 175, 178–9 fns 11–13 and Amirante, 2012 *PaceLR* (n 2).

[12] Gill (n 11) 179, Brian Preston "Science and the Law: Evaluating the Evidentiary Reliability" (2003) 23 *Aust Bar Rev* 1.

[13] The NGT served as an answer when broadening *locus standi* before the Indian Supreme Court was not found to adequately secure the call for environmental justice (for the excessive case load it yielded). See Gitanjali Nain Gill "Access to Environmental Justice in India: Innovation and Change" in Jerzy Jendroka and Magdalena Bar (eds) *Procedural Environmental Rights: Principle X in Theory and Practice* (Intersentia Ltd 2017), 209, 223.

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scope of review is considered broad, being of "wide and overriding nature", including questions of both facts and law, and the tribunal's procedure is investigative and consultative. The NGT has also been granted right to work *ex debito justitiae*, illustrating well the environmental justice reason warranting the ECTs.[14] The Indian Supreme Court and judiciary in general had an active role in instigating the NGT, as it had had earlier when dealing with environmental matters.[15] Perhaps understandably for a system initiated with and representing judicial activism, the Indian NGT appears to have a broader scope of review and investigation rights than any European jurisdiction examined in this Special Issue.

The Australian endeavour to take the challenges posed by reviewing environmental decision-making earnestly is exemplified by the New South Wales' ECT, the Land and Environment Court (NSWLEC). As is the case with the Indian NGT, the NSWLEC employs specific scientific or technical commissioners when deciding upon complex environmental matters. Experience from NSWLEC is in line with the other jurisdictions utilizing in-house expertise: their presence in the court may alleviate the bias produced by parties' different ability to gain expertise to support their case.[16] According to the experience from Sweden, in-house experts can secure balancing the economic benefits of the planned project with its detrimental environmental impact in a correct manner.[17] The relation of these aspects to *trias politica*, environmental justice or unbiased court procedure is further discussed in the conclusion of this foreword.

III. European Requirements and National Approaches: Compatibility or Not?

3.1. European Requirements

The article by *Eliantonio* examines the EU legal requirements contained in secondary law and in the European courts' case law concerning, firstly, the standard of review to which national courts must adhere to when deciding matters within the scope of EU law and, secondly, access to scientific knowledge in environmental litigation. The article shows that, on the basis of the case law of the Court of Justice of the European Union, national courts are limited to an assessment of whether a "manifest error" has been committed by the public authorities. *Eliantonio* also remarks that the Court of Justice never provided any guidance on the availability and type of expert knowledge that must be made available in national proceedings. However, as the "manifest error" threshold entails checking the reliability and accuracy of the evidence presented before national courts, the latter have to be provided with adequate procedural means to access the scientific knowledge necessary to review the technical choices of the public authorities.

Specifically concerning environmental law, *Eliantonio* also shows that there does not seem to be any explicit reference to neither in international nor in EU law on the requirements concerning the standard of review necessary in environmental matters or the access to the scientific knowledge of the judge. However, such requirements could perhaps be read in Article 9(2) Aarhus Convention that requires the possibility of a review of the "substantive and procedural legality".[18] If a court or an impartial body has to review the substantive legality of an environmental decision, it has to be able to understand the scientific aspects and background of the decision. Similarly, the CJEU has recently stressed that national courts have to be able to assess all aspects of the legality, and not only the procedural aspects, of the technical assessment (in the relevant cases, the environmental impact assessment) on which the challenged decisions were based.[19]

[14] Gill (n 11) 187, 202; Robinson, *PaceLR* 2012 (n 4) 364. Widening the NGT's scope of review took place during the Parliamentary debates: the narrow scope of jurisdiction was enlargened, the *locus standi* was made rather open, and the possibility of appeal to the Supreme Court was better secured, Amirante, *PaceLR* 2012 461, 464.

[15] Amirante, 2012 *PaceLR* (n 2) 454–5. At times Indian Supreme Court's judicial activism has been found excessive, endangering achievement of legal certainty, *trias politica* or impartiality of judges, Deva , Surya, Public Interest Litigation in India: A Critical Review (2009) *Civil Justice Quarterly* 19-40; Lavanya Rajamani "Public interest environmental litigation in India: exploring issues of access, participation, equity, effectiveness and sustainability" (2007) *Journal of Environmental Law* 19(3) 293–321.

[16] In NSWLEC a specific procedure has been established to manage the parties' expert witnesses or evidence, *Preston JEL* 2014 (n 4) 381. See also articles on the Netherlands and Finland in this Special Issue. For a comparison of the Australian tribunals and the merits review they conduct with the UK and the US system see e.g. Michael Asimow and Jeffrey S. Lubbers, "Merits of 'Merits' Review: A Comparative Look at the Australian Administrative Appeals Tribunal" (2010) *Windsor Y.B. Access Just*. 28, 261, 263–7; for a critical stance on the differences between merits and judicial review, Peter Cane, "Merits Review and Judicial Review – the AAT as Trojan Horse" (2000) *Federal Law Review* 28, 213–244.

[17] Ulf Bjällås "Experiences of Sweden's Environmental Courts" (2010) *J Ct Innovation* 3, 177.

[18] Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, June 25, 1998, 2161 U.N.T.S. 447, available at http://treaties.un.org/doc/publication/ UNTS/ Volume%202161/v2161.pdf

[19] E.g. Case C-72/12, *Gemeinde Altrip and Others v Land Rheinland-Pfalz* ECLI:EU:C:2013:712, para 37; case C-137/14, *Commission v. Germany* ECLI:EU:C:2015:683, para 48. Vasiliki (Vicky) Karageorgou "The Scope of the Review in Environment-related Disputes in the Light of the Aarhus Convention and EU Law – Tensions between Effective Judicial Protection and National Procedural Autonomy" in Jerzy Jendrośka and Magdalena Bar (eds) *Procedural Environmental Rights: Principle X in Theory and Practice* (Intersentia 2018), 229–261.

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Eliantonio concludes by touching upon the recent Commission Communication on Access to Justice, questioning in how far the vague requirements set therein ensure the realization of the principle of effective judicial protection.

The conclusion arising from *Eliantonio*'s examination of the EU landscape, and the starting point for the comparative analysis, is that the legislative and jurisprudential framework does not set a clear standard and guidance for national courts. As a consequence, different national solutions on the applicable standard of review and access to scientific knowledge may all be acceptable under EU law – provided that the court is able to assess whether a "manifest error" has been committed. After discussing the different national solutions, this foreword will move to tackling the two overarching research questions of this Special Issue, namely, firstly, whether there are any national solutions, which are below what is acceptable in terms of effective judicial protection and, secondly, whether the existence of (acceptable) different national solutions impair the uniform application of EU law.

3.2 National Solutions

The solutions in which the European legal systems have chosen to tackle the issue of access to scientific knowledge in environmental judicial review vary significantly. In some legal systems, courts play an active role to examine the technical aspects of a dispute and are allowed to ask for advice from technical experts. This is the case in Germany, for example, as is explained in *Grashof*'s article in this Special Issue. In other countries, courts partly consist of technical experts, which, at least to a certain extent, ensure that the courts understand the technical aspects they have to assess. This is the case for example in Finland and Sweden. The reformatory process (ie the possibility for courts to thoroughly review environmental decisions and to not only annul them, but also modify them) in both countries allows the administrative courts to review almost all aspects of the pending case, scientific review included in that assessment, as *Paloniitty* and *Kangasmaa* explain in their article. From this perspective, there seems to be a correlation between, on the one hand, the intensity of review of court and their possibility to access the necessary scientific knowledge. However, *Grashof* also points out to the practical difficulties connected to the active role which German administrative judges are expected to play: the need to assess that further investigations, requiring an expert, are necessary in the first place; how to interpret an expert report; and the judges' attitude towards the expert opinion and the reasoning of the administrative decision. The Finnish solution of having in-house expert judges participating in court deliberations may circumvent these issues: their expertise can be fully employed through the process, lawyer and expert judges considering the case together.

A different approach, which seems to be quite unique, is followed in the Netherlands. Courts may ask help from the "Foundation of Independent Court Experts in Environmental and Planning Law" (*Stichting Advisering Bestuursrechtspraak*, StAB). This foundation employs some 40 technical experts whose task is to write reports about the technical aspects of pending cases. *Backes*' article discussed this unique body and concludes that the Dutch solution is a success story.

As Germany, also Italian administrative courts have the possibility to access scientific knowledge through independent experts. However, as *Caranta* points out, unlike Germany, Italian courts are much more deferent towards the administrative authorities, although the last years have witnessed Italian courts deploying a somewhat more intense scrutiny. Much like a chicken and egg story, the consequence of this deferent attitude is that Italian administrative courts seldom avail themselves of expert witnesses, and this in turn keeps their review to the surface of the challenged administrative decision.

While the German and Finnish scope of review can certainly be considered as going beyond the "manifest error" threshold required by the case law of Court of Justice, and the courts' attitude can also not be criticized with respect to compliance with the requirement of examining the "substantive and procedural legality" of environmental decisions under the Aarhus Convention, the same conclusion is not obvious for the Italian legal system. Indeed, *Caranta* expresses doubts as to the compliance of the Italian legal system with the principle of effective judicial protection and the Aarhus Convention because of the often too marginal control performed by courts in environmental matters. The Italian situation presented by *Caranta* also shows that, while access to scientific knowledge might be provided in legislation, through, for example, the possibility to ask the report of an expert, great variations might still exist in the use which the courts make of this possibility *in practice*.

If Italian courts have been depicted by *Caranta* as rather reluctant to review the complex technical choices made by the administration, and hence rarely using the possibility to ask an expert providing them with the necessary scientific knowledge to understand the technical aspects of a dispute, the article by *Bar* presents a picture of an even more deferent approach of national courts in Poland. Unlike the Italian situation, however, where the legislative framework does, in principle, provide for the possibility for courts to access the scientific knowledge necessary to assess the administration's choices, Polish law strictly limits the same power. Indeed, as *Bar* explains, the review carried out by the administrative courts is based on the documents available in the file of the case and further evidence is generally not allowed. This, in turn, results in a very deferent attitude by the courts towards the authorities and a mere "formal" control of environ-

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mental decisions, as shown by the case law presented by *Bar* and concerning the EIA Directive.[20] In light of the complete bar from accessing scientific knowledge, coupled with a very marginal review of environmental decisions, *Bar* thus concludes that the Polish legal system is in breach of the principle of effective judicial protection and the requirements of the Aarhus Convention.

Although not contained in this Special Issue, an important contribution to the topic under examination is offered by *Ryall* concerning the Irish situation.[21] *Ryall* presents also a situation in which courts are very deferent towards the administrative and review decisions only against the threshold of "unreasonableness": as *Ryall* puts it, "the court will not interfere with the exercise of discretion provided the decision-maker's conclusion is not unreasonable or irrational on the basis of the relevant material".[22] This intensity of review does not seem to allow for a substantive review of environmental decisions and, according to *Ryall*, might therefore fall foul of the EU principle of effective judicial protection and the Aarhus Convention.

Having presented the various national approaches towards the standard of review and the access to scientific knowledge in environmental judicial review, it is possible to tackle the two original research questions. The first question, namely whether there are national solutions which are in breach of EU law and the Aarhus Convention, can be therefore answered in the affirmative, rather certainly with regard to the Polish[23] and Irish system,[24] and quite possibly also with regard to the Italian system. It remains to be seen whether the matter will be brought at one point to the attention of the Court of Justice.

The second research question, namely whether these national differences *might* impair the uniform application of EU law, can also be answered in the affirmative, because there is at least the *potential* for the same case to be solved differently. As the contributions to this Special Issue have shown, the standard of review in environmental decisions varies from a full review in Finland to a review limited to unreasonableness in Ireland: the same case, concerning the same violation of EU environmental law, might therefore be solved differently because judges will perform a different control of the factual basis on which the decision was grounded. Equally, if one court has no possibility to access the scientific knowledge necessary to understand and review the administration's choices (as seems to be the case in Poland), it is likely to decide differently from a court where experts can be called or where scientific expertise is present within the court itself. Whether these interim conclusions can also hold true *in practice* will be discussed in the next section.

3.3 The Judges' Perspective

Administrative judges from four different legal orders within the EU – Germany, Italy, Sweden and the Netherlands – received case scenarios. Two situations were presented, aiming to discover similarities and differences in the use of scientific and technical knowledge by the different judges. The first case dealt with a permit procedure for a wind park that would affect species and habitats protected by the EU nature conservation legislation – a local NGO had voiced concerns that the competent authority's decision did not pay due attention to endangered birds and bats. The second case was about an incineration plant with implications to the Best Available Technique conclusions under the Industrial Emissions Directive, with a neighbour complaining about the issued permit, and its consequences on health and nearby waters.[25]

The judges' discussion on the cases well illustrate the variations brought forth in the articles of this Special Issue, but also made visible some aspects absent from the doctrinal analysis. First and foremost, none of the judges found substantial relevance on whether the legislation in question was of national or EU origin. All the judges found their courts to be open to any scientific evidence or "counter-investigation" stemming from any source: the administrative authority, parties, NGOs, public concerned, etc. In Germany

[20] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment OJ L 26, 28.1.2012, p. 1–21.

[21] Aine Ryall, "Enforcing the Environmental Impact Assessment Directive in Ireland: The Evolution of the Standard of Judicial Review" (2018) *Transnational Environmental Law* (forthcoming).

[22] Ryall (n 21).

[23] It seems that the same conclusion could be drawn for the Romanian standard of review, which looks very similar to that employed in Poland. See Bogdana Neamtu and Dacian C. Dragos, "Mimicking Environmental Transparency. The Implementation of the Aarhus Convention in Romania" in Roberto Caranta, Anna Gerbrandy and Bilun Müller (eds), *The Making of a New European Culture: The Aarhus Convention* (Europa Law Publishing, 2018) p. 288.

[24] It should be noted that this matter has been brought before the Aarhus Compliance Committee who has remarked that the UK, who employs a standard of review which is comparable to the Irish one, does not meet the requirement of the Aarhus Convention as regards the standard of review. See Communication C33 (available at http://www.unece.org/env/pp/compliance/Compliancecommittee/33TableUK.html) and Carole Day "United Kingdom" in Roberto Caranta, Anna Gerbrandy and Bilun Müller (eds), (n. 23) pp. 308-310.

[25] The Directives present in the cases were Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds OJ L 20, 26.1.2010, p. 7–25; Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora OJ L 206, 22.7.1992, p. 7–50; and Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) OJ L 334, 17.12.2010, p. 17–119.

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(as *Grashof* explains in her paper) and Sweden, the courts are obliged to conduct *ex officio* examination of the case; hence, according to the judges, if the information provided by the administration is not convincing for the court, the latter will further examine the question. In Italy, according to the participating judge, the courts do not favour the administrative authority's stance on the scientific aspects as a matter of principle, but may in practice often be "cultural conformists": as long as the authority shows to have sufficiently examined the case's scientific side, the courts may *de facto* be reluctant to amend those stances.[26] These few remarks show already that, *in practice*, the same case might well be adjudicated differently, as the same informational basis of a decision might be regarded sufficient by an Italian court and insufficient by a Swedish (or Finnish) court.

Interesting differences were found when asked how certain legal-scientific concepts pertinent to the cases – such as "significant effect to the environment", "favourable conservation status' or "best available technique", are understood in the courts. The Swedish judge indicated that they are primarily taken as formal, i.e. legal, requirements, but to detail their content in an individual case a further non-legal analysis is necessitated, focusing on whether the investigation has been adequately thorough. There the in-house expert judges can aid in the evaluation.[27] In Italy the concepts are also taken as legal ones, but the manner in which the scientific side is evaluated differs from the Swedish (or Finnish) situation, since the Italian courts need to manage without the in-house expert judges.[28] In the Netherlands, the court can hear stances that such open-ended concepts have been imperfectly interpreted and if found necessary, according to the Dutch judge, it can ask for an expert opinion from the StaB. As regards to Germany, the judge's answer was more structured. "Significant effect to the environment" is a legal term; "favourable conservation status" would be decided according to the nature protection agency's evaluation on the matter; and "BAT" is a question of fact, not law. There appears to be at least a weak link between the judges' interpretation of the concepts on one hand, and the amount of scientific expertise at their disposal and their possibilities to employ it on the other: where scientific expertise is available, these concepts are not held to be entirely legal (Sweden), but if scientific knowledge is not readily available (at least not in the mind of the judges), the concepts may more easily be interpreted as strictly legal ones (Italy). These dissimilarities may again result in different solutions when deciding upon matters dealing with environmental regulation originated from EU, and in consequence jeopardize uniform application of EU law.

In general, the judges' answers confirm the results of the Special Issue articles: it is universally accepted that scientific knowledge is elementary for deciding upon environmental matters, but the ways in which judges discuss scientific questions varies: e.g. in Sweden they can be considered, in Germany to some extent and in Italy very little if at all. Not only constitutional solutions – in the understanding of *trias politica* – limit the courts' investigation, but also cultural aspects and traditions may have their place, as is seen in the Italian judge's notion of judges being "cultural conformists". If access to scientific expertise is well secured and the scope of court's investigation allows for it, the courts may interpret a legal-scientific concept more thoroughly – allowing the scientific aspects to influence interpretation of legal norms – than is the case in jurisdictions with more narrowed down review and consequent access to scientific expertise.

IV. Conclusions: From Facts to Fairness

It appears that, in environmental judicial review, factual and legal questions become entangled and some jurisdictions have allowed their court practices and procedures to reflect this reality. In the common law countries debate over the courts' scope of review, whether it extends to questions of law, facts and/or merits, is coupled with conceptual and practical distinction between appeal and judicial review.[29] Interpretations of these concepts and variations of their practical results are abundant even to the extent of questioning whether a distinction between questions of law and other questions can be upheld at all. If not endorsing, the Special Issue articles at least elaborate on this argument when explaining the practical challenges this differentiation – or distinction, depending on the system – yield.[30] The Dutch and Finnish

[26] In this regard the Italian courts appear to be a polar opposite of their Brazilian counterparts: in Brazil the Supreme Court has been seen as the challenger of cultural reluctantance of accepting stringent environmental regulation, Nicholas S. Bryner "Brazil's Green Court: Environmental Law in the Superior Tribunal de Justica (High Court of Brazil)" (2012) *Pace Envtl. L. Rev.* 29, 470, 533–6. In Brazil, judicial activism is supported by constitutional solutions favouring environmentalist stances, *ibid* 480–2.

[27] For the in-house expert judge system see article of Finnish solution in this Special Issue.

[28] As explained in Caranta's article in this Special Issue.

[29] Hanna Wilberg and Mark Elliott, "Introduction", 6–8, 15 in Hanna Wilberg and Mark Elliott (eds) *The Scope and Intensity of Substantive Review: Traversing Taggart's Rainbow* (Bloomsbury Publishing 2015).

[30] Hanna Wilberg "Deference on relevance and purpose?: Wrestling with the law/discretion divide", 263, in Hanna Wilberg and Elliott, Mark (eds.) *The Scope and Intensity of Substantive Review: Traversing Taggart's Rainbow* (Bloomsbury Publishing 2015). Of the jurisdictions examined in this Special Issue, for example, Poland has strongly separated questions of law from other questions, whereas in Finland and the Netherlands systemic solutions allow for a more lenient differentiation. In this regard Irish system seems to resemble the Polish one, as explained in Ryall (n 21).

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systems exemplify this well. In both countries, scientific expertise is available, but in the Netherlands (lawyer) judges need to formulate a question to the scientists, whereas in Finland the scientists are present in the court, being judges themselves. As explained in *Backes'* article, at times the Dutch expert body rephrases the judges' questions to better aid in solving the case, illustrating how knowledge of the factual side is imperative to properly understand the legal questions of the case. There may be a risk that legal systems' reluctance to the use of scientific expertise produce rulings where also the legal question – and answer to it – is not as thoroughly considered as it could be, were the factual aspects more rigorously contemplated.

Ultimately the factual disputes force us to face the democratic principle of distribution of powers: the articles in the Special Issue at hand reveal that interpretations of *trias politica* vary greatly between the countries even if they are part of the same transnational entity, the European Union, and bound by its requirements. In some of the studied jurisdictions, the review the courts perform may include also the factual or scientific aspects of the administrative authority's decision, whilst in some such review is rather abhorred, regarded as excessive use of the judiciary's powers at the expense of the executive's. In the European Union, all these solutions should, however, meet the requirements the Union law establishes for adequate judicial review, and they should also secure the fulfilment of international obligations, especially the Aarhus Convention.

Thus, what seemed like factual disputes boils down to a questions of fairness. When national solutions in Member States differ as greatly as they do, uniform implementation of EU law might be impaired, leading to potentially different treatment of cases dealing with Union law depending on where they are dealt. In a field that demands specialization and expertise, also questions of fair trial emerge: do in-house expert judges or judges specialized in environmental cases endanger the impartiality of judges?[31] Then again, reaching environmental justice has been used as justification for the ECTs: the expertise concentrated in them might secure fairer solutions.[32] The variations in national procedural solutions, court practices and even cultural conventions offer, in any case, much to ponder and study when uniform application of EU law in environmental matters or effectiveness of environmental regulation are in question.

[31] As explained in Paloniitty and Kangasmaa in this Special Issue.
[32] See fn 4 and text therein.