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REVIEW

'Better Regulation' with 'Make it Work': An assessment of the Make it Work's Drafting Principles on Compliance Assurance

Lorenzo Squintani

Environmental modernization and administrative simplification in Portugal

Alexandra Aragão

The Non-Regression Principle under EU and German Water Law 'on the Ground'

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Evidence based legislation? Adequate protection of EU citizens against aircraft noise

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Statement on the Circular Economy concept

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Editorial

The aim of simplifying environmental law persists; it rekindled with the European Commission 2015 update of the Better Regulation Strategy and the related ‘Regulatory Fitness and Performance programme’ (REFIT) striving for “making EU law lighter, simpler and less costly”. At the same time, the ‘Make it Work’ initiative launched by several EU Member States adds some dynamics to the debate by providing first implementation experiences.

Against this background, *elni Review 1/2016* throws a spotlight on the simplification of environmental law. *Lorenzo Squintani* analyses the first ‘Make it Work’ Drafting Principles on compliance assurance with particular attention given to simplification matters, but also taking into account regulatory burdens and the EU’s objective of a high level of environmental protection. Subsequently, *Alexandra Aragão* reports on environmental modernization and administrative simplification experiences in Portugal and gives critical analysis of recent legal changes that took place in 2015.

Besides, *Eckard Rehbinder* assesses the landmark 1st July 2015 decision of the European Court of Justice on the Non-Regression Principle and specifically addresses remaining open questions not answered by the court. *Franziska Heß* and *Martin Führ* discuss the current body of scientific knowledge on aircraft noise based on this evidence derive legal implications with respect to EU legislation aiming at adequate protection of EU citizens against aircraft noise.

Furthermore, in a *Statement* contribution *Franz Fiala* and *Michela Vuerich* articulate ANEC’s perspective on the circular economy concept presented by the European Commission in December 2015. Finally, in the recent developments section *Miriam Dross* sums up highlights from a recent statement by the *German Advisory Council on the Environment* as regards the impacts that the planned TTIP agreement could have on German and European environmental protection standards.

We hope you enjoy reading of *elni Review 1/2016*.

Contributions for the next issue, in particular with respect to CETA’s impact on environmental law (see the ELNI Forum announcement), are very welcome. Please send contributions to the editors by mid-September 2016.

Julian Schenten/ Martin Führ

June 2016

ELNI Forum:

8 September 2016

Brussels, Belgium

“Assessing CETA’s Impact on Environmental Law”

ELNI in cooperation with the Centre d'Etude du Droit de l'Environnement (CEDRE) is organising the 2016 ELNI Forum on “Assessing CETA’s impact on Environmental Law”. The Forum will take place at the **Saint-Louis University** in Brussels, Belgium between 2pm and 5.30pm.

The following topics, among others, will be discussed between law scholars and practitioners as well as representatives from the NGO and political/administrative scenes:

- The nature (a mixed agreement?) and validity of CETA
- The impact of CETA on existing environmental legislation and application
- The impact of CETA on future environmental legislation

Further details will soon be available on www.elni.org and on <http://www.usaintlouis.be> (CEDRE)

Evidence based legislation? Adequate protection of EU citizens against aircraft noise – Discussion of current scientific knowledge on aircraft noise with respect to EU legislation concerning noise protection

Franziska Heß and Martin Führ

1 Introduction

Legislative acts can be seen as the societal response to conflicts identified in the political process. Since the age of Enlightenment this response has to be based on rational considerations. The actors in the legislative process are obliged to incorporate new scientific insights. Consequently Article 191 TFEU not only states the “Union policy on the environment shall contribute to pursuit [...] protecting human health” (para 1) but also provides that “in preparing its policy on the environment, the Union shall take account of available scientific and technical data” (para 3).

This article focuses on air noise protection in European law. The consideration of legal implications is based on a meta study (synopsis) of scientific research on aircraft noise-induced health impairments, annoyance and learning disorders.¹ The synopsis² concludes that the association of noise with an increased incidence of chronic arterial hypertension has been shown in large-scale epidemiological studies and reproduced with sophisticated methodology. It is therefore considered scientifically confirmed. In addition to hypertension, the relationship between aircraft noise and the risk of myocardial infarctions as well as strokes has been discussed. Based on recent epidemiological studies the relationship can also be considered scientifically confirmed. However, with regard to heart failure an association is very likely, but not enough studies are available to allow a definite statement. Therefore, in order to protect residents in the vicinity of airports, legally standardized immission limit values for aircraft noise must be provided.

Subjective annoyance due to aircraft noise was assessed in Europe by the EU position paper of 2002. Since the paper is essentially based on studies that are more than 20 years old, recent data demonstrates that the EU curve systematically underestimates the annoyance of residents surveyed today.

With regard to learning disorders of school children, current scientific knowledge confirms the ubiquitous experience that learning progress is set back by aircraft noise. Some studies indicate that the learning

deficits might last for several years.³ Schools in areas subject to high aircraft noise exposure do not provide a healthy learning environment.

By reviewing the current studies, the authors held that legally standardized immission limit values for aircraft noise exposure must be provided in order to protect residents in the vicinity of airports. From the available studies an upper limit of 50 dB(A) for L_{den} as a 24 h value and 45 dB(A) for L_{night} are to be derived to avoid annoyance, cognitive constrictions and health impairments.⁴ To avoid sleeping disorders at night, an 8 hour period without noise is required.

2 Noise protection at EU level

Noise protection, particularly in the case of aircraft noise, has been incorporated into European law in various forms. In the following, EU primary law will be considered first of all. Subsequently, the provisions of the Environmental Noise Directive (2002/49/EC) (END)⁵ will be discussed, with reference to the obligations of Member States, as well as duties conferred on the European Commission. Taking into account the statements of the 7th Environmental Action Programme conclusions from the noise-related health findings will be drawn, both *de lege lata* and *de lege ferenda*.

2.1 EU primary law

According to EU primary law, protection and improvement of human health are important goals of the European Union. EU actions should primarily be designed to support, coordinate and supplement measures of the Member States (Art. 6 subp. a, Treaty on the Functioning of the European Union [TFEU]). Noise protection, as a component of EU environmental policy (compare Art. 191 para. 1 TFEU), is designed to preserve and protect the environment, to improve its quality, as well as to protect human health. According to Art. 191 para. 2 TFEU, EU environmen-

1 Health Impairments, Annoyance and Learning Disorders Caused by Aircraft Noise - Synopsis of the State of Current Noise Research by Martin Kaltenbach, Christian Maschke, Franziska Heß, Hildegard Niemann, Martin Führ, International Journal of Environmental Protection, Jan. 2016, Vol. 6 Iss. 1, pp. 15-46.

2 The synopsis reviews more than 90 studies on air noise with special focus on new scientific researches between 2000 and 2015, see literature in (1).

3 See C. Clark, J. Head and S. A. Stansfeld, “Longitudinal effects of aircraft noise exposure on children’s health and cognition: A six-year follow-up of the UK RANCH cohort”, Journal of Environmental Psychology, vol. 35, pp. 1-9, 2013; concerning the question how long effects remain, the authors found in (1) a need to further studies.

4 See chapter 2.2.2.

5 Directive 2002/49/EC of June 25, 2002 Relating to the Assessment and Management of Environmental Noise (OJCEC No. L 189: pp. 12 ff. – the so-called Environmental Noise Directive (END)).

tal policy is based “*on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.*”

As laid down in Art. 3 para. 1 of the Charter of Fundamental Rights of the European Union, every person has the right to “*respect for his or her physical and mental integrity*”. At the same time, protection of health, in terms of physical and mental integrity, is a fundamental right of each EU citizen as well.⁶ Moreover, Art. 8 para. 1 of the European Convention on Human Rights (ECHR) includes noise protection as an element of the right to respect for privacy and family life.⁷ The ECHR is an international treaty to which the EU has acceded (compare Art. 6 para. 2 of the Treaty of the European Union (TEU)). Thus, its guarantees are general principles of EU law (Art. 6 para. 3 TEU).

2.2 The Environmental Noise Directive (END)

Since the European Community’s 5th Environmental Action Programme of 1992,⁸ noise protection has been recognised as a discrete goal of the European Union. The ensuing green paper, called ‘Future Noise Policy’,⁹ has essentially outlined the primarily source-based efforts of the Community. It was considered the beginning of an action programme which, first of all, was supposed to provide a firm picture of the noise situation by comprehensive data collection and likewise to include potential noise reduction measures. Art. 7 of the 6th Environmental Action Programme of the Community aims at substantially reducing the number of persons regularly affected by long-term average levels of noise, in particular from traffic which, according to scientific studies, cause detrimental effects on human health.¹⁰

2.2.1 Targets for Member States

Directive 2002/49/EC (END) established binding rules for Member States to draft “*strategic noise maps*” gathering noise exposure data (Art. 7). Furthermore, the Directive imposes the duty to draw up “*action plans*” to manage noise issues and effects, including noise reduction (Art. 8).

Contrary to the former legal situation in most Member States, the END is based on a holistic perspective on noise: All types of noise are to be considered according to uniform assessment criteria to generate a comprehensive picture of noise exposure, which can be

applied to assessments using comparable methods. For this purpose, “*data about environmental noise levels should [...] be collected, collated or reported in accordance with comparable criteria. This implies the use of harmonised indicators and evaluation methods, as well as criteria for the alignment of noise-mapping.*” (END, recital (7)).

This data collection process is based on the term ‘environmental noise’, defined in Art. 3 subp. a END as “*unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity.*”¹¹

Art. 1 para. 1 Clause 1 END aims at defining “*a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.*” Actions on noise mapping, public information on environmental noise and its effects as well as the adoption of action plans by Member States based on noise maps (Art. 1 Subp. 1 Clause 2 END) should therefore be considered as an initial approach for further developing a European strategy for reducing environmental noise.

Noise action plans work towards both the prevention and reduction of environmental noise, especially in cases of deleterious effects, and the maintenance of satisfactory noise situations. Nevertheless, Art. 1, para. 2 END indicates that, first of all, a general foundation for noise-reducing measures regarding major noise sources should be created. Member States are obliged to gather information and report it to the Commission (Art. 10 END). Subsequently, the Commission may propose additional legislative actions or implementation strategies (Art. 11 END).

The END is only the beginning of the EU’s endeavours. So far, there has not been an extensively conceived and binding noise protection policy, which would accomplish the objectives and principles of EU primary law. In fact, it is merely a first step, but further moves are predetermined in the END (see Section 12.2).

Consequently, the END does not provide for pan-European uniform noise limit values. Art. 5 END rather mandates Member States to autonomously determine noise limits based on uniform assessment methods (so-called ‘noise indicators’).

2.2.2 Noise mapping based on defined noise indicators

According to Art. 5 para. 1 END, the noise indicators L_{den} and L_{night} as per Annex I are to be used for noise

⁶ ECJ, ECR. 1999, I-5251 – Lucaccioni; ECR. 1996, I-5501 ff. – Royale belge SA vs. Commission.

⁷ ECHR, Judgement of Oct. 2, 2001, Hatton et al. vs. UK, No. 36022/97; in ÖJZ 2003, 72; restrictive ECHR (Grand Chamber), Judgement of July 8, 2003, Hatton et al. vs. UK, No. 36022/97; in NVwZ 2004, 1465.

⁸ OJEC no. 138 of May 17, 1993: pp. 1 et seq.

⁹ COM [1996] 540 final; OJEC no. C 200, June 30, 1997.

¹⁰ Decision no. 1600/2002/EC of the European Parliament and the Council of July 22, 2002 regarding the 6th Environmental Action Programme of the European Communities, OJEC L 242, p. 1

¹¹ Activities as per Appendix I of Directive 96/61/EC of the Council of September 24, 1996 concerning Integrated Pollution Prevention and Control (OCEC L 257 of Oct. 10, 1996, p. 26, now Directive 2010/75/EU of the European Parliament and the Council of November 24, 2010 regarding industrial emissions OCEU 343, p. 17).

mapping. The L_{den} is defined as a day-evening-night noise indicator for overall annoyance (Art. 3 subp. f END); the L_{night} is a noise indicator for sleep disturbance (Art. 3 subp. I END). Both cases are further defined in Annex I. Additionally, optional indicators are a noise indicator for annoyance during the day period and a noise indicator for annoyance during the evening period (Art. 3 subps. g and h; Art. 5 paras. 1 and 4 END). According to Annex I, the day is defined as having twelve hours, the evening four hours and the night eight hours; the evening period may be shortened by a maximum of two hours for the benefit of either day or night, provided that this choice is the same for all the sources. Therefore, several Member States, including Germany, have to introduce an evening period not yet provided in their legal regimes, the specific protective nature of which has still to be shaped by EU law.

2.2.3 Noise assessment

The assessment of noise indicators, meaning any method used to calculate, predict, estimate or measure the value of a noise indicator or the related harmful effects (Art. 3 subp. e END), is prescribed for measurement and computation in Annex II (Art. 6 para. 1 END). However, deviations based on different measurement or computation methods in different Member States are permitted under the preconditions of Art. 6 para. 2 END, until common assessment methods are established according to Art. 13 END. As far as the estimates of concrete noise values are concerned, and therefore the issue of assessing the health relevance of certain noise levels, Art. 6 para. 2 END in conjunction with Annex III on assessment of noise effects on populations recommend applying exposure-response relationships at least for the relation between annoyance and L_{den} as well as sleep disturbance and L_{night} for road, rail and air traffic noise and for industrial noise.

It is not laid down which concrete noise values require the drafting of an action plan.¹² This decision is at the Member States' discretion; in Germany, aside from the 34th Federal Noise Protection Regulation (34. BIImSchV) on Noise Mapping, no further regulations have been made in conjunction with Art. 8 para. 1 END.

According to Art. 8 para. 1 Subp. 2 END, "*the measures within the plans are at the discretion of the competent authorities.*" It can be concluded that immission values are only relevant for the obligation to draft an action plan, if a decision must be made (i) about which measures in the context of an action plan should primarily be taken or (ii) in which areas particularly rapid action is required due to critical noise

situations.¹³ Only the identification of "places near major roads" and other infrastructure in terms of Art. 7 paras. 1 and 2 END, respectively, require threshold values.¹⁴ Other authors assume that the duty to draw up action plans only exists if noise problems and noise effects require regulation. This shall be the case if national limit values are exceeded.¹⁵

In any case, there is a certain level of uncertainty among Member States regarding the application of Art. 8 END. The European Commission has stated that only 20 Member States have submitted action plans, only five of them within the timeframe provided, as of January 18, 2009. Moreover the data submitted was very diverse and difficult to compare (COM/2011/0321 final; No. 4.3.4, p. 7).

2.3 Implementation of END at EU level

The END not only contains stipulations for Member States, but also assigns tasks to the European Commission (compare Art. 6 paras. 2 and 10-12). The Commission has to determine common assessment methods; check existing Community measures related to environmental noise sources; and submit a report regarding the previous implementation of the Directive, including the issue of whether there is a "need for further Community actions on environmental noise" (Art. 11 para. 2 END). As early as March 10, 2004, the Commission reported to the European Parliament and the Council including a review of existing Community measures relating to sources of environmental noise (Art. 10 para. 1 END).¹⁶

2.3.1 The CNOSSOS-EU Project

In 2008, the European Commission began to fulfil its mandate of establishing common assessment methods for noise levels, as stipulated in Art. 6 para. 2 END. For this purpose, the project 'Common Noise Assessment Methods in Europe' (CNOSSOS-EU) was initiated under the aegis of the Joint Research Centre (JRC). The project aims to establish technical foundations for the revision of Annex II to the Directive, thus ensuring that noise mapping in Europe is carried out in accordance with a uniform methodology, and achieving comparability. The report, published in 2012, certifies ECAC.Doc. 29 as the basis on which to calculate aircraft noise, supplemented by elements of the German Instruction on the Calculation of Noise Protection Areas (AzB 2008).¹⁷

13 As recommended by Cancik P. (2008): Die Pflicht zur Aufstellung von Aktionsplänen zur Lärminderung und ihre Kopplung an Auslösewerte [The requirement for the drafting of action plans for noise abatement, and their linkage to trigger values], NVwZ 2008: pp. 167-170.

14 Cancik (2008), *ibid.*

15 Hansmann, *supra* note 12, para. 8-9; Jarass, *supra* note 12.

16 COM/2004/0160, accessible at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52004DC0160&from=EN>.

17 See Stylianos Kephalopoulos, Marco Paviotti, Fabienne Anfosso-Lédée, 2012, Common Noise Assessment Methods in Europe (CNOSSOS-EU) To be used by the EU Member States for strategic noise mapping following

12 Hansmann in Landmann/Rohmer, Umweltrecht [environmental law], vol. III, 2015, Federal Immissions Protection Law (BIImSchG), § 47d para. 4; Jarass, BIImSchG, 2015, § 47d para. 4, with further substantiation which refer to national law with respect to the issue of limit values.

The introduction of uniform calculation bases at EU level could contribute to harmonizing the assessment of aircraft noise, which would facilitate a uniform assessment process.

2.3.2 Report of the Commission (COM/2011/0321)

In 2011, the European Commission submitted the first report based on Art. 11 END to the European Parliament.¹⁸ This report¹⁹ assesses the need for further Community actions on environmental noise (Art. 11 para. 2 END), and reviews the acoustic environment quality in the EU based on the data submitted by Member States (Art. 11 para. 3 END).

In the course of its stock-taking, the Commission has established, with regard to noise indications and limit values, that 22 Member States have established legally-binding noise limit values (of which three are still in progress), and only four Member States have provided mere benchmark values. It is frequently noted that standardized noise protection values are exceeded, without carrying out sufficient remediation measures. The report states that in some countries the implementation of such measures was not linked to whether a value is binding or not.

The Commission faced a broad spectrum of limit, trigger and guideline values, and only five member states “specifically indicated that they had used health-based assessments or drew on WHO health-based assessments in establishing noise limit values”²⁰

Despite these disparities, the European Commission, in 2011, rejected the adoption of mandatory noise limit values or noise target values at EU level, on the basis of the principle of subsidiarity. If this were carried out, national and local authorities would have limited flexibility to adapt the level of protection and the action plans/measures to their specific situations. At the same time, the establishment of EU noise trigger values, minimum requirements, or EU recommendations were expressly considered. In the Commission’s view such approaches are advantageous, since they could serve as minimum thresholds to trigger action on noise but would not prevent Member States from setting stricter requirements, where necessary.²¹

¹⁸ See adoption as specified in the Environmental Noise Directive 2002/49/EC, Report EUR 25379 EN.

¹⁹ COM/2011/0321 final, p. 1. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0321:FIN:EN:PDF>.

²⁰ COM/2011/0321 final, p. 4; the WHO recommends L_{den} 50 dB(A) und L_{night} 40 dB(A) as a target value, see World Health Organisation, Night Noise Guidelines for Europe, WHO Regional Office for Europe, Copenhagen, 2009.

²¹ COM/2011/0321 final, p. 11.

2.4 The 7th EU Environmental Action Programme

According to the 7th EU Environmental Action Programme²², (EAP), noise protection as per Art. 2 para. 1 subp. c is the priority objective within the general objective to safeguard the Union’s citizens from environment-related pressures and risks to health and well-being.

In a total of 106 points, the Programme presents an environmental strategy for Europe up to 2020. With regard to noise, point 49 states that available data on long-term average exposure show that 65% of Europeans living in major urban areas are exposed to high noise levels, and more than 20% to night time noise levels at which adverse health effects occur frequently. A “high noise level” is defined as one above 55 dB during day-time (L_{den}) and 50 dB at night (L_{night}).

Thus, the 7th EAP states that noise-related “adverse health effects” do occur in the EU. Accordingly, the 7th EAP should ensure that “noise exposure in the Union has significantly decreased [by 2020], moving closer to WHO recommended levels (point 54 (b))”. In order to achieve this goal, point 54 (ii) requires implementing an updated Union noise policy aligned with the latest scientific knowledge, and measures to reduce noise at source, including improvements in city design.

2.5 Legal conclusions from the results of the present synopsis

It follows from the above that EU efforts are evidently geared to realizing a European noise protection level aligned with the latest scientific knowledge, and, in the long term, conforming with WHO recommendations. The present synopsis shows that the rationale of noise effect research supports the correctness of the holistic approach of the European noise protection policy (firstly, comprehensively codified in the Environmental Noise Directive) in many aspects. At the same time, there is a need for further improvement. An amendment of the END should include instruments to ensure the intended level of protection and to fulfil the primary law provisions. However, “adverse health effects”, as identified by EU bodies, also underpin the imperative to act at national and local level.

2.5.1 Noise indications for health and considerable annoyance

First of all, this involves using a noise indicator for a 24-hour day instead of subdividing it into a day-time level and a night-time level. The present synopsis has particularly shown that the health-related effects of

²² Art. 1 of Decision no. 1386/2013/EU of the European Parliament and the Council of November 20, 2013 on a general Environmental Action Programme for the EU for the period of time through 2020 titled “Living well within the limits of our planet”, established the 7th EU Environmental Action Programme, which will be valid until December 31, 2020 (accessible under <http://bookshop.europa.eu/en/general-union-environment-action-programme-to-2020-pbKH0113833/>).

noise exposure, such as hypertension, cannot easily be presented in terms of a 16-hour day level, since health – or a healthy human being – cannot be subdivided into day-time and night-time segments. Rather, dealing with day-time noise exposure is inextricably linked with the night-time challenges for body and soul. The same applies to considerable annoyance. Therefore, a noise indicator merely covering a 16-hour time period is only suitable for describing a threshold for health risks in the case of airports without night-time operations. Since many civilian airports in Europe also operate at night, the noise indicator with a day-evening-night level, introduced by the END, is the preferred parameter from the viewpoint of noise effect research. Due to the special health-related relevance of night-time noise exposure, the additional use of the L_{night} level is indispensable.

Therefore, noise indicators should be codified not only for the assessment of noise exposure, but also as a basis for an assessment of health effects, amending the existing Art. 6 para. 3 END.

2.5.2 Updating the EU's exposure-response relationships

The present synopsis has also shown that the Commission's exposure-response relationships no longer appropriately reflect today's aircraft noise exposure. In order to improve the comparability of noise assessment and the achievement of Art 6 para. 3 and Annex III END, recommendations for the application of exposure-response relationships should be developed based on an evaluation of the investigations discussed in the present synopsis. For this purpose, European studies since 2000 should be assessed, as Janssen et al. already undertook in 2009 for recent European studies (e.g. Switzerland, Germany and the Netherlands) carried out between 1991 and 2006.²³

2.5.3 More comprehensive noise mapping

With reference to noise mapping, the noise indicators L_{den} and L_{night} are already binding minimum levels in terms of noise values. It is the sole example of "binding" noise values in the END. Annex VI Nos. 1.5, 1.6 as well as 2.5, and the 2006 END provide for mandatory mapping at an L_{den} of 55 dB(A) and an L_{night} of 50 dB(A); for the night-time value, an additional mapping procedure at L_{night} 45 dB(A) is optional.

The present synopsis shows that according to today's level of knowledge, an L_{den} of 50 dB(A) in a 24-hour day should be regarded as the immission limit value for aircraft noise in order to avoid the risk of hypertension; night-time aircraft noise should not exceed an L_{night} of 45 dB(A). Hence, seen from the perspective of health protection, it is necessary to stipulate manda-

tory noise mapping already at these noise values to embrace noise hazardous to human health. Therefore, noise mapping starting at $L_{den} = 50$ dB(A) and $L_{night} = 45$ dB(A) is necessary. So revision of the END is required.

Considering the precautionary principle, Annex VI should provide for embracing and designating noise exposure at a level reduced by 5 dB(A) while noise maps are drafted. Aircraft noise should therefore be mapped at an L_{den} of 45 dB(A) and an L_{night} of 40 dB(A).

No major additional cost would be associated with this, since the incorporation of additional certifiable noise level ranges would be possible by means of a few additional calculations. At the same time, investments in a yet incomplete monitoring network would enable the ascertainment of data in quiet areas, and hence, as provided by Art. 8 para. 1 of the Directive, their incorporation into action plans. Such an expansion of the mapping requirement has already been considered by the European Commission in its report under Art. 11 END.²⁴

2.5.4 European noise limits

With regard to the question of whether binding European noise limits can or should be established, the term "limit" itself is essential. On the one hand, limits can be considered values which are strictly binding, and hence may not be exceeded. In the context of aircraft noise, these "real" limits are sporadic; generally, the term "limit" means a value which requires certain measures if it is exceeded: either the elimination or reduction of the noise source itself, or protective measures with regard to the affected objective of protection.

However, in the Commission's view, binding noise limit values or noise target values²⁵ (to be understood as targeted reduction goals) are, because of the principle of subsidiarity, not a suitable tool for future noise protection policy in the European Union. Likewise, the Commission fears that coping with country-specific noise situations could be hampered by introducing binding limits.

This could certainly be true to the extent that, at this juncture, the implementation of binding European noise limits could demand too much of those countries where few noise protection measures have been realised to date, since significant rehabilitation costs could arise. This could cause a considerable competitive disadvantage for airports which are regularly affected by such a burden of cost. A specific duty for Member States to maintain quiet areas, as well as a fundamen-

23 S. A. Janssen and H. Vos, "A comparison of recent surveys to aircraft noise exposure-response relationships", Netherlands Organisation for Applied Scientific Research (TNO), Report TNO-034-DTM-2009-01799, 2009.

24 Cf. COM/2011/0321 final, No. 15.

25 The 'Clean Air for Europe' Directive 2008/50/EC defines in Art. 2 Subp. 9 "target value" shall mean a level fixed with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained where possible over a given period".

tal general ban on a deterioration of the noise situation, would prevent noise standards already achieved from being further eroded. At the same time, all Member States should be given the possibility to catch up on noise protection. Therefore, binding noise limits at EU level appear to be inadvisable, given the currently limited level of harmonization.

Considering the great importance of noise protection in the EU bodies' view, and taking into account the economic and social costs, efforts of Member States in noise abatement planning should already be oriented towards a noise reduction goal defined as "target value", especially due to the new objectives of the 7th EU Environmental Action Programme (contrary to the European Commission's view).

2.5.5 European trigger values and alarm thresholds for noise action planning

Member States should be obligated to establish noise action plans in cases in which noise values, the transgression of which causes adverse health effects, are exceeded and to adopt noise reduction measures at source or at the immission site, by way of specifying the stipulations of Art. 8 END. Here, trigger values and alarm thresholds should be established.

Trigger values causing the obligation to establish a noise action plan should, according to the information gained by the present synopsis, be determined for an L_{den} of 50 dB(A) and an L_{night} of 45 dB(A), in order to avoid annoyance, adverse health effects as well as cognitive impairment, thus embracing all legally protected goals of the END.

Alarm thresholds, to be understood as values from which it is envisaged that measures in a noise action plan aiming at reducing noise values or the exposure at the place of immission should be taken, should be set at an L_{den} of 55 dB(A) and an L_{night} of 50 dB(A). Noise action plans could thus be more closely oriented towards "clean air" action plans.²⁶

2.5.6 Enforcement of Member States' obligations under the END

As the European Commission has ascertained, to date the Directive has no clear enforcement provisions under which limit value transgressions in action plans could be directly connected to possible reduction measures. This is also explicitly the case for those Member States which have established legally binding limits at national level. Consequently, according to the European Commission, there often seems to be the possibility of exceeding limit values without legal consequences. Therefore, the Commission is considering the establishment of clear targets, contents and the implementation of action plans.²⁷

Since noise action plans aim to contribute to the protection of human health and the reduction of significant annoyance, concrete possibilities for noise reduction should be provided as part of noise action plans. Furthermore, the obligation to set precise time limits for the achievement of certain reduction goals, accompanied by stipulations to monitor the results, would be a suitable means for improving the practical effectiveness of noise action plans. Member States should likewise be obliged to appropriately ensure that measures provided in noise action plans are not counteracted by the plans of other planning authorities. In Germany, measures stipulated in noise action plans are viewed as simple balance-of-interests considerations by other decision-makers, which they merely have to consider; they therefore have relatively little force in practice.

Moreover, owing to the direct relevance for fundamental Union rights, it should be ensured that individuals can invoke trigger values and alarm thresholds. The recent development of environmental law has shown that particularly the recognition of individual EU citizens' rights generates considerable implementation pressure upon Member States; hence it is appropriate to promote EU noise protection in this respect. Members of the public who are affected by environmental noise as well as environmental associations should therefore have the right to demand both the establishment of noise action plans and the implementation of concrete noise reduction measures through the courts of their respective countries.

3 Notes on noise protection in Germany

*3.1 Actions by public authorities *de lege lata**

In the context of the principle of *ex proprio motu* investigation, national authorities have an obligation to take note of the findings of noise effect research, and to include them in their decision-making process. The findings of the synopsis show that in the case of an infringement of the exposure limit values derived from Chapter 5, considerable health impairment – right up to death – can be expected. Thus, compliance with these immission values would serve to protect people from health risks.

In view of the high constitutional importance of the basic right to physical inviolability in terms of Art. 2 Section 2 Clause 1 of the German Constitution, an extraordinarily important constitutional interest would be required to justify permanent exposures above the derived immission values. Whether purely economic interests, such as the so-called "night-time leap" in freight traffic, constitutes an adequate justification appears to be doubtful. However, short-term deviations, for example in exceptional situations such as after storms or during rescue operations in the case of catastrophes, could be acceptable.

26 Cf. Art. 2 nos. 9 & 10 'Clean Air for Europe'-Directive 2008/50/EC, OJEC L 152, p. 1; here, the definitions of the alarm threshold diverge.

27 COM/2011/0321 final, No. 16.

3.2 Binding noise limits values for aircraft noise

The consolidated findings of noise effect research by now also give occasion to institute a binding, substantive noise limit system, either through statute or regulation. On the one hand, this is necessary owing to the protective dimension of fundamental rights.²⁸ and on the other hand for reasons of legal certainty. Such limit values might be best integrated into the system of already operative immission limit values under the Traffic Noise Protection Regulation (16th BImSchV).²⁹

Considering the achieved state of noise effect research, the legislative mandate has been established to such a degree that no further delay is justifiable. A revision of the Aircraft Noise Act is also strongly required.

4 Summary of derived exposure values for aircraft noise

As outlined above the limit values derived from present knowledge are:

50 dB(A) for L_{den} as a 24-hr value and 45 dB(A) L_{night} for night-time.

The maintenance of an 8-hour night-time resting period between 10pm and 6am must be an additional urgent goal.

The following table outlines the essential results of the present investigation once again. The terminology of the proposed exposure limit values is oriented towards the definitions of the ‘Clean Air for Europe’ Directive (2008/50/EC), which are also contained in the 39th Federal Noise Protection Regulation (39th BImSchV) in Germany. The substantive content of each term is explained as follows (whereby, the only goal is the protection of human health):

- Immission “limit value” shall mean “a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health [and/or the environment as a whole], to be attained within a given period and not to be exceeded once attained” (see (Art. 2 subp. 5 Directive 2008/50/EC).
- “Target value” refers to “a level fixed with the aim of avoiding, preventing or reducing harmful effects on human health [and/or the environment as a whole], to be attained where possible over a given period” (Art. 2 subp. 9 Directive 2008/50/EC).

An exposure limit value for L_{den} of 55 dB(A) and for L_{night} of 45 dB(A) should immediately be stipulated under European law. Based on the WHO recommendation, it would moreover appear necessary to estab-

lish a long-term target value for environmental noise planning for L_{den} of 50 dB(A) and for L_{night} of 40 dB(A).

Table: Immission limit values and target values for day and night aircraft noise exposure

Reference level	Value	Unit	Content	Foundation
L_{den}	55	dB(A)	Immission limit value	Derived on the basis of the synopsis
L_{night}	45	dB(A)	Immission limit value	Derived on the basis of the synopsis
L_{den}	50	dB(A)	Target value	WHO recommendation
L_{night}	40	dB(A)	Target value	WHO recommendation

²⁸ Sachverständigenrat für Umweltfragen, Fluglärm reduzieren: Reformbedarf bei der Planung von Flughäfen und Flugrouten, 2014, para 189.

²⁹ Similar conclusion can be found in SRU 2014, para. 189.

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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 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.

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s o f i a



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).

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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)

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