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Evaluation of the Federal German Act on Environmental Impact Assessment (EIA Act)

Kilian Bizer, Jaqui Dopfer and Martin Führ

The aim of this article is to provide a short synopsis of the results of the research project on "Evaluation of the Federal German EIA Act".¹ First of all, the analytical approach is elucidated (section 1), followed by the results of the individual stages of Environmental Impact Assessment (2) and the general findings across all stages (3). Finally, recommendations are provided on the different policy options (4).

1 Objective and methodology

The aim of the study is to determine and evaluate the effects of the Federal German EIA Act on the enforcement of environmental law and the realisation of approval procedures on industrial plants and infrastructure measures, to identify any weaknesses, and to develop possible improvement measures to enable more effective and efficient enforcement.

The original task of environmental impact assessment is to provide the competent authorities with relevant information on the likely substantial environmental effects of a project so that they can make a decision on the project proposal in due consideration of the expected substantial environmental impacts (Recital 1 of the Directive 97/11/EG). Correspondingly and according to § 1 of the German Federal EIA Act, the purpose of the Act is to guarantee that environmental impact is comprehensively determined, described and assessed at an early stage and that the results of the EIA are taken into account in all approval decisions taken by the competent authorities with regard to certain public and private project proposals. Effects may not only become apparent in the different steps of an EIA; the very fact that an EIA is to be carried out can trigger a "pre-effect", which then steers the shaping of project proposal in the direction of a greater consideration of environmental concerns.

Methodologically the analysis is based on the approach of legal and economic institutional analysis. This approach assumes that the provisions of the Federal EIA Act ought – like every legal provision – to influence human behaviour. Alongside the project proponents and the person responsible for preparing the application documents, the other addressees of the Federal EIA Act are first and foremost the competent authorities, the affected public and the general public. In order to be able to estimate the impact of the provi-

sions that are in force, stakeholder incentives have to be considered. At the core of the analysis is the question as to how the Federal EIA Act influenced their decisions. On this basis possible gaps in incentives shall be identified, the closing of which could increase the efficacy of EIA. On the strength of the incentive analysis, the effects of the existing Federal EIA Act can then be assessed and future measures elaborated.

As a subject of analysis, the Federal EIA Act involves several particularities which need to be taken into consideration in the methodology: Firstly, it is a procedure that is "tacked on" to the actual approval procedure. Concrete environmental impacts are predominantly to be traced back to the respective sectoral law and should not be directly ascribed to the Federal EIA Act. Secondly, the EIA Act consolidates information and makes it easier for the competent authorities to make a well-founded decision. To a large extent its success can be measured by the quality of these decisions. Thirdly, the enforcement of federal law essentially takes place through the *Länder*, with the consequence that discrepancies between the *Länder* are conceivable and probable. A *Länder*-based comparison did not, however, constitute part of this assessment.

The evaluation of the EIA and the Federal EIA Act is carried out as a retrospective impact assessment. The breakdown of the evaluation into the following four levels (cascade model²) enables a high level of precision in the analysis:

- The first level aims to collect data available nationwide. From the outset it was clear that the data collection would remain incomplete as the *Länder* are not in a position to provide a comprehensive data basis.
- The second level thus focuses on six regions in Germany in order to conduct a complete collection of all EIAs in the time period of 1999 to 2005 within these regions. This data collection serves the purpose of compiling a suitable and complete population from which a layered sample can be drawn. The selection of regions was undertaken according to certain criteria (e.g. land-use categories, with relation to the categories of "rural areas" and "high-density areas"). It should be noted that without the open and proactive participation of six regions in Bavaria, Bremen, Hesse, Mecklenburg Western

¹ The final report of the study funded by the German Federal Environment Protection Agency will be published as: Führ, M./Bizer, K./Mengel, A./Dopfer, J. et al., Evaluation des UVPG des Bundes als Anwendung einer retrospektiven Gesetzesfolgenforschung, Erich Schmidt Verlag, Berlin 2008.

² A detailed description of the methodological approaches of the four levels of the cascade model can be found in Bedke, N./Dopfer, J./Kellert, S./Kober, D., elni Review 1/2007, 25.

Pomerania, Northrhine Westphalia and Saxony, this study would not have been possible.

- The third level examines 105 case studies with the help of different surveying and collection instruments, which specifically analyse each of the stages of the EIA (screening, scoping, developer documentation, authority participation, public participation, summary description, assessment, decision-making) in order to be able to determine the contribution of the individual stages to the overall result.

Each region has at least 17 case studies, the number of which roughly reflects the basic population of the region in terms of the type of approval procedure. The case studies are distributed as follows across the project groups: 19 cases involve approval procedures in accordance with the Federal German Immission Control Act (BImSchG); 31 cases are taken from the transport sector; land-use plans are analysed more closely in 16 cases; and the relatively large “*miscellaneous*” group encompassing 32 cases involve, for example, legal procedures related to water and mining. 7 further cases are classified within the group of “Development plans / line determination” as “*preliminary procedures which are of significance for subsequent procedures*”. Additionally, 22 approval procedures without EIA are evaluated as a “*policy-off*” reference group for the purposes of comparison. The objective of the data collection is to identify particularly positive institutional arrangements (best practice approaches) and to show the starting points at which instrumental improvements are possible and constructive so that potential deficits can be remedied.

- It is the task of the fourth level of the cascade model to develop design options to optimise enforcement of the Federal EIA Act on the basis of the best practice approaches. The incentives which are available to the stakeholders shall also be considered more closely. This also enables statements to be made on the conditions under which the selected instruments can contribute to ensuring consistency with the legal provisions with the least cost and effort.

On the third level of the cascade model, several instruments are applied for data collection. The key focus is on the determination of the “*actual quality*” of the EIAs based on the administrative documents for the case, using a survey which measures quality in view of the respective legal objectives and thereby also the “*level of goal achievement*”. For each stage of the EIA, several data items are collected by five research assistants associated with the project (i.e. the evaluators). The assessment of the items was agreed upon by the evaluators at the beginning of the project. In the course of data collection, which continued for

several months, regular meetings – the results of which are collated in an “*intermediate assessment sheet*” – ensured an even-handed and well-balanced application of the criteria. In the assessment of the “*level of goal achievement*”, deficiencies of previous stages are not included in the evaluation of the following stages. The exclusion of “*subsequent deficiencies*” makes it possible to compare the stages with each other (horizontally). Another data collection instrument is to be found in the “*basic data document*” by means of which key data on the respective case study and the status of the procedure are collated. Additionally, semi-standardised interviews are held with the respective staff of the competent authorities so as to clear up open issues and to hear further suggestions.

Finally, a “*cost-benefit survey*” was conducted. The staff of the competent authorities answered questions in person in survey-based interviews on the procedure with which they are affiliated. Specifically but not exclusively, data were collected in these interviews on the “*perceived quality*” of the individual stages of the respective EIA procedure. It is also requested that the developer or EIA consultant responsible for preparing the developer documentation as well as representatives of environmental associations participate in this cost-benefit survey in order to discern whether these groups deliver different structural assessments of the “*perceived quality*” of the EIA.

The basic data document encompasses 50 items, the goal achievement level criteria (63 items), the cost-benefit surveys (38 items) and the explorative surveys (14 items). In its standardised part, each case study contains data on 165 features. Since not all questions were answered, 154 pieces of data are available per case study on average, with the consequence that approx. 16,000 data units from 105 case studies are to be evaluated in total. This comprehensive database makes it possible to determine correlations between the different stages as well as to evaluate points of coherence between the “*actual*” quality (established by the evaluators) as well as the “*perceived*” quality from the perspective of the staff at the competent authorities and from the point of view of the environmental associations and the EIA consultants responsible for submitting the developer documentation for the EIA.

Of the 105 case studies, 22 are classified as “*policy-off*” cases. For these, an EIA was not carried out because they fall under the “*substantiality threshold*” on the basis of which the obligation to carry out an EIA hinges. A comparison with the “*policy-on*” cases shows the influence of the EIA on the course of the procedure. In order to ascertain a uniform reference framework, the “*policy-off*” cases should be evaluated as if an EIA were compulsory.

In order to be able to estimate the total number of Environmental Impact Assessments undertaken in

Germany, projections are conducted on the basis of the data from the six regions for 2005, using three indicators. With the help of economic data, it is estimated that an EIA was compulsory for approx. 642 procedures in Germany. On the basis of population data, approx. 724 procedures are estimated to arise each year in Germany for which an EIA is compulsory. If the projection is based on area data, a total of approx. 950 policy-on procedures results for Germany. The arithmetic mean of these three equally ranking approaches is 772 EIA procedures (excluding development plans). Thus, it can be concluded that approx. 775 (+/- 150) EIA procedures were carried out in Germany in the reference year of 2005.

2 Evaluating the stages

Based on the policy-on and policy-off comparison, the evaluation reveals that the EIA is realising a significantly higher level of goal achievement than would otherwise be possible. The analysis of the individual EIA stages in the policy-on cases also shows, however, that goal achievement has failed to reach the normative standard in many cases:

In stage 0 (“*Screening*”) it needs to be examined whether the EIA obligation applies or not. Strikingly, in the vast majority of cases the assessment arrives at the conclusion that an EIA is not necessary. It is conceivable that the competent authorities and project proponents use the screening process to modify the project in such a way that an EIA is dispensable (an aspect of pre-effect). The surveyed staff of the competent authorities criticise the separation of general and location-specific screening. They support a specification of the thresholds on the basis of which the EIA obligation is applied.

The evaluation of stage 1, “*Scoping*”, shows that there is a need for action in order to increase quality in terms of the determination of protected assets and impact factors or impact paths to be examined, the determination of the evaluation scope with regard to the objects of analysis, and a clear definition of the applied methods for evaluation of the identification, description and assessment of the expected environmental impacts. It is noticeable that in 52% of the policy-on cases no documents can be found on the results of the scoping in the files. There are also deficiencies in the reconciliation of possible different layers in parallel or tiered processes of scoping. Compared with the “*policy-off*” cases – which appropriately determines the protected assets in only 14% of cases, sufficiently presents impact factors and mechanisms in 10% of cases and adequately defines the evaluation scope in 14% of cases – the “*policy-on*” cases achieve a significantly better level of goal achievement: 56% (protected assets), 46% (impact factors and mechanisms) and 41% (evaluation scope).

Although there is still significant room for improvement, the effectiveness of the EIA is hereby clearly shown. A strong correlation can be observed between “*Scoping*” and the “*Application Documents*” as well as between “*Scoping*” and the “*Summary Description*” and the “*Assessment*”. Hence, a good “*Scoping*” contributes to an increase in the quality of the later stages. Setting a date for scoping is recommended in the form of a meeting, if possible to be held in all procedures. Not only representatives of environmental and nature protection agencies but also representatives of environmental associations should have the opportunity to participate in these meetings in order to integrate all relevant environmental aspects in the procedure at an early stage. If the results are documented and substantiated, operationalisation is improved and the procedure is simplified. The binding adoption of a “*Specification Manual*” for those charged with drawing up the developer documentation for the EIA and an “*Assessment Handbook*” for the competent authorities could make the overall planning of the procedure easier. For small projects (up to 1.5 million Euros in investments) there is a close correlation between actual quality and personnel expenditure. For medium-sized procedures (between 1.5 million and 15 million Euro of investment) this correlation is not quite as – but nonetheless comparatively – close. For both groups it is significant. However, this is not the case with large projects, even though a positive correlation is also to be found there.

The quality of the “*Documentation according to § 6 of the Federal EIA Act*” (Stage 2, also referred to as “*Application Documents*”) is generally evaluated positively. In more than 50% of cases a good quality is achieved in terms of almost all aspects; the shares are predominantly between 54% and 66%. Significant qualitative differences can, however, be found between the individual project groups. The guidelines, pamphlets, and so on that are currently available only have a limited effect because they are too little tailored to the situation of the users. Thus, it would be more constructive if the specifications are more closely related to the respective “*project type*”.

The “*Involvement of other authorities*” (Stage 3) incorporates aspects in the EIA procedure that are relevant to the results, as reflected in the location of the project proposal, the planning and technical design of the project proposal as well as the compensation and substitution measures. The quality of the involvement of the other authorities is assessed as very high by the staff of the competent authorities: 85% (N 64) of the personnel state that the quality is between “*good*” and “*very good*”. According to the assessment of the staff at the competent authorities, the commissioned EIA consultant/person charged with drawing up the documentation as well as environmental associations, the involvement of the other authorities contributes to a

modification of the project proposal, thereby helping to reduce environmental burdens and improving the quality of the EIA. Optimisation approaches are brought to bear at an early stage in agency participation.

The comments and objections of the public and above all the environmental associations are of high technical quality. When asked to assess the quality of “*public participation*” (Stage 4), almost three quarters of surveyed staff at the competent authorities state that the quality of public participation in the analysed procedures is “*good*” to “*very good*”. The objections of the public likewise lead to modifications to the project that benefit the environment. Statements on environmental concerns integrated from public participation are also to be found in the “*Summary Description*” in accordance with § 11 of Federal EIA Act. The views of the other authorities are found in 85% (N 78) of the cases and those of the public in 63% (N 62) of the cases. In 83% (N 72) of the cases, the views of the participating authorities on relevant environmental concerns are also integrated in the environmental impact assessment in accordance with § 12 of the Federal EIA Act. These data show the effectiveness of such participation. However, involvement frequently occurs too late. For this reason, approaches tailored to an optimisation of public participation aim, above all and in view of the effectiveness of participation, at an earlier involvement of the public. Furthermore, standardisation of the legal regulations on public participation, not only across the *Länder* but also in sectoral law and the authorisation procedures, should also be aimed at.

The quality of the “*Summary Description*” (stage 5) and the “*Assessment*” (stage 6) is relatively low overall. The data included in the “*Summary Description*” are often neither scope-specific nor project-specific. In particular the avoidance measures are too unspecific in many cases or are not presented in a differentiated form, whilst the data on the reduction measures and above all the compensation and substitution mechanisms are generally very comprehensively described. Compared to the “*policy-off*” cases, the “*policy-on*” cases perform significantly better, but only reach a satisfactory result at best, since plausible descriptions of the environmental impact associated with the plan are frequently lacking, as are remarks on the effects across environmental media and on interactions. Consolidation of the environmental concerns from other documentation such as the Flora Fauna Habitat (FFH) analysis or the Landscape Conservation Support Plan is carried out as seldom as the incorporation of comments related to protected assets. The assessment procedure usually takes place in a non-transparent manner, using evaluation criteria specific to the project. In most cases, a generally comprehensible representation of the applied evaluation criteria is lacking.

With regard to the small EIA plans with investments of up to 1.5 million Euro, there is a significant positive correlation between the involved expenditure and the quality of the “*Summary Description*” and the “*Assessment*”. In this case, low additional expenditure leads to a significant quality improvement as regards the “*Summary Description*” and “*Assessment*” respectively. Due to the strong correlation and the relatively low quality of the assessment in the case of smaller projects, investing additionally competencies and expenditure should especially be considered in these areas.

In stage 7, the “*Decision*”, which is the central link between the Federal EIA Act and sectoral environmental law, the results of the EIA procedure have a strong effect. It is observed that the environmental impacts which were ranked as “*substantial*” are generally taken into account. However, it should be noted that impacts are assessed as “*not substantial*” prior to this to a surprisingly high degree.

In view of the avoidance and reduction measures, undifferentiated statements are to be found in around half of the “*policy-on*” cases and two thirds of the “*policy-off*” cases. Frequently, there is lack of plausible reasons to weigh up environmental concerns in comparison to other concerns and for the conducted estimation of the approval prerequisites respectively, even though the “*policy-on*” cases perform significantly better in this case.

Assessment of the coherencies between the individual EIA stages in the policy-on case studies establishes that the “*actual quality*” of the stage “*Considerations to be taken into account in the decision*” greatly depends on the two previous stages: the “*Summary Description*” and the “*Assessment*”. The higher the “*actual quality*” of the two stages, the higher the “*actual quality*” of the “*Consideration of the EIA results in the decision*”. This correlation shows very clearly that the “*Summary Description*” of all ascertained relevant environmental concerns including the representation of the required avoidance and reduction measures as well as their comprehensive assessment is of key importance to the quality of the decision.

In-depth monitoring of the actual environmental impacts of a project and the environmental protection measures rooted in the approval decision cannot be observed in the case studies. “*Monitoring*” of this kind has not been a legal provision for “*policy-on*” projects to date.

Overall it is apparent that at the competent authorities many of the staff feel overburdened, particularly in the case of large or complex EIA procedures. They also state that they do not have adequate resources. These circumstances compromise the quality of the procedures in all stages. They can especially be observed in the “*Summary Description*” and in the “*Assessment*” where the diverse results of the procedure (the effi-

cacy of the results being very difficult to estimate) are brought together, weighed up if necessary and converted into a generally comprehensible decision. The procedure is experienced as being extremely complex.

In the time period from 1999 to 2005, the case studies do not show increases in quality in terms of the handling of the different stages of the EIA procedure. It seems that neither routine practice in processing, nor additional edicts, guidelines, etc. in the period of evaluation have had the effect of increasing quality.

3 General findings and recommendations

A “*pre-effect*” is included in the survey of the staff at the competent authorities, the persons responsible for preparing the documentation for the EIA (developers or EIA consultants) and the environmental associations: The fact that an EIA has to be carried out for a project can already influence the shaping of the project proposal. The staff at the competent authorities see a “*significant*” to “*very significant*” pre-effect on the environmental impacts in 37% of the case studies. The persons responsible for drawing up the documentation prior to the EIA (the developers or EIA consultants) attested that a pre-effect could be found in as many as 58% of the evaluated case studies. In contrast, the environmental associations found the pre-effect to be apparent in only 21% of the evaluated case studies. Since the person responsible for drawing up the documentation is supposed to have the greatest insight into the effects that come about in the stage prior to the EIA, greater importance is attached to his or her estimation in this respect. Thus, it should be concluded that the “*pre-effect*” definitely appreciably influences the realisation and location of the proposed project. This makes up one of the first significant concrete effects of EIA.

The concrete effects which the environmental assessments carried out in accordance with § 6 of the Federal EIA Act have on the issue of realisation and the location of the proposed project needs to be assessed more cautiously, yet these analyses likewise have a noteworthy effect on the project proposals.

The involvement of other authorities to a large degree lends itself to furnishing the procedure with the required expertise and information. The competent authorities often rely on the expert knowledge of the environmental and nature protection agencies that participate in the procedure.

The involvement of the public often occurs at too late a date, with the consequence that its potential for increasing the concrete effects of the EIA is not fully tapped. Overall it can be concluded that the EIA entails actual concrete effects and does so to a noteworthy extent. This conclusion is based on both the comments of the surveyed stakeholders as well as the results of the case studies. The next challenge is to minimise the determined deficiencies in the course of

the procedure and to tap potentials to make the procedure more effective and to increase efficiency.

The findings of the evaluated case studies make clear that there are deficiencies in determining, describing, and assessing environmental impacts in a project-specific and scope-specific manner. In part, the selection of the protected assets and effects of the project proposal to be assessed as well as the determination of the evaluation scope are scarcely plausible. This is the case for both the “*Scoping*” stage and the “*Documentation of the project proponents*”. The latter does not contain sufficient project-specific and scope-specific representation of the environmental effects in a quarter to a third of the cases. Instead a list of effects of the project type that are possible in a general sense can be found; these effects are then treated in a relatively “*all-inclusive*” fashion and are often ranked as “*not substantial*”. Remediation in this case primarily occurs in the participation stages. If the participation of authorities and the public do not amend insignificant data on spatial realities, particularities, and sensitivities as well data on the possible environmental impacts, information relevant to the decision can thereby be lacking.

In the case of EIA procedures following a tiered approach, which is frequently taken with large projects, the decision about how to position parts of the EIA in relation to the various steps of the different procedures is proving to be problematic in terms of the scope and subject-matter of assessment. The data collection shows that the way in which this is done is not generally comprehensible in the majority of cases; it also shows that no additional or further environmental impacts are taken into account in the downstream procedure or that an environmental impact assessment is not carried out at all in the downstream procedure. In the scoping, the evaluations that are to be carried out on the different levels are seldom determined. The survey also shows that the specifications of the EIA administrative guidelines (UVP-VwV) are often not applied by the staff at the competent authorities.

As a result of the Federal EIA Act, high technical demands are made on all stakeholders. This is particularly true in the case of the staff at the competent authorities. A range of uncertainties should be stated. These range from appropriate differentiation of aspects of the assessment in tiered procedures, to the function and aspects of a summary description, the environmental assessment and weighting of the environmental concerns, up to the opportunity provided by law of incorporating the results of the EIA in the approval decision. The available knowledge – also according to the comments of the staff of the competent authorities – is frequently not sufficient.

Possible concrete courses of action are increased safeguarding of the required competences and qualifications in the case of staff at the competent authorities

by means of further training, greater consideration of the training background (in particular in the case of the staff of the competent authorities) or external support (e.g. using an administrative consultant). Lastly, keeping an eye on staff capacities in terms of the distribution of tasks and restructuring at the competent authorities shall be of crucial importance in maintaining working capacity and thereby guaranteeing the level of quality required in the processing of the EIA.

Overall the stakeholders have a basically positive opinion of the EIA instrument, thereby confirming the relevance of environmental impact assessment to effective environmental precautions and benefits across society that result from the procedure.

In the evaluation of the case studies, particularly positive examples were to be found time and again. Closer analysis makes clear that this is due to particular instruments that the stakeholders use (best practice approaches). These approaches are incorporated in the development of instruments on Level 4 of the cascade model.

4 Instruments and design options

The task of the fourth level of the cascade model is to analyse instruments that support enforcement so as to develop design options on this basis. The objective is to identify instruments that are suited to supporting implementation of the EIA in accordance with law and thereby to increase the quality – and at the same time the social benefits – of the EIA.

Instrument development is based on the following considerations: Instruments have to be applied in the case of barriers which fundamentally inhibit the implementation of the Federal EIA Act: A basic problem with regard to the implementation of the Federal EIA Act is that the staff at the competent authorities frequently work under difficult conditions which impede proper enforcement. As a consequence gaps arise in the expert environmental knowledge at the competent authorities. The goal of instrument development is therefore primarily to offer assistance in this respect. Additionally, the evaluation results show that the stakeholders are acting under very heterogeneous conditions. The instruments are therefore to be designed so as to provide as much help as possible and so that their use is seen as advantageous by stakeholders in terms of the incentives available to them. Moreover, instrument development is also geared towards further autonomous development of the EIA. This practical approach aims at efficient implementability. Therefore, it draws upon best practice approaches that are already being used, is geared towards greater standardisation in terms of the enforcement of the EIA and pays attention to compatibility and synergies with other instruments. Overall the final report evaluated two major instruments in depth and

made conceptual reflections on up to ten further instruments.

The “*Contact points for project types*” are dedicated to preparing and ensuring the availability of information specific to the project types for enforcement in practice, thereby offering assistance to authorised persons in the context of concrete proposals. The contact point assumes a coordinating function between authorities which work in similar fields in order to – amongst other things – organise and coordinate further training, draw up guidelines and also record and document the EIA procedure in the form of individual cases or country-wide. Whether the contact point can additionally take on a monitoring function needs to be clarified. It is probably more constructive to make participation obligatory in order to get the assistance-orientated consultation process going. The contact points can record and document the EIA as well as take the first steps in quality assurance and standardisation. Contact points can significantly and sustainably improve effectiveness as regards objectives. However, shaping these contact points in a competent and helpful manner is relatively staff-intensive, but leads to a situation in which the competencies of the responsible authorities increase in the long term in terms of handling EIAs.

The “*administrative consultant*” instrument aims at external support of official tasks and can bring about improvements in terms of both the technical quality of the EIA and the coordination of the EIA procedure. To this extent, it increases effectiveness. In the short term it should also lead to significant increases in efficiency, which then becomes problematic when the long-term and extensive use of administrative consultants leads to a reduction of internal competencies within the competent authorities. The incorporation of an administrative consultant should be optional for the competent authorities. Easing the burden on the competent authorities in terms of staff, time and expertise would be advantageous. In addition, practical savings can be achieved in the short term. Moreover, a higher degree of legal certainty of the procedures is to be expected due to the improved quality of the basic principles of evaluation. If the evaluation process is successfully designed so as to be transparent, it leads to a higher acceptance amongst the public. In order to realise these benefits, the administrative consultant needs to be specifically trained in terms of the three different use areas: quality assurance of the application documents (Option 1), the hearing (Option 2) and preparation of the decision (Option 3).

If the two main instruments – those of “*contact points for the project types*” and “*administrative consultant*” – are contrasted, use of the “*contact points*” instrument has the effect of increasing competencies within the competent authorities in the medium to long term. In the case of the staff at the competent authorities, further training is an achievable effect of the “*contact*

points” since the latter systematically clarify open questions and ambiguities and provide concrete assistance. If the processing of the EIA largely remains the responsibility of the competent authorities and is not outsourced to externs, it can be assumed that a generally higher degree of staff sensitisation towards environmental concerns will emerge, which can also be of benefit to the policy-off procedures. In contrast it is assumed that the use of the “*administrative consultant*” tends to decrease EIA competencies at the authorities. There is also the danger that the instrument is more likely to be used to cut jobs at the competent authorities than to ease the work burden which would be counterproductive to the original intention. However, the advantage of this instrument is that it can be directly applied and that it quickly brings about effects. Furthermore, it can serve to ease the burden on staff at the competent authorities in terms of expertise and time and is able – in view of the marginal conditions – to ensure a high level of EIA quality. In keeping with the mentioned advantages and disadvantages the use of not only one of these instruments but rather a combination of both key instruments is possible, in accordance with political objectives and/or objectives internal to the competent authorities. Without a doubt it can be constructive to apply both instruments – if necessary with different foci, objectives or at different times.

The two *key instruments* can and should be supported in their application by further instruments. For this purpose, conceptual suggestions for ten further instruments have been elaborated within the scope of administrative and organisational measures as well as in view of the change in the legal framework conditions. A combination of the instruments above all serves quality assurance in two ways: on the one hand, it helps directly in terms of certification; on the other hand, it helps indirectly within the scope of creating incentives for stakeholders, e.g. by means of transparency. Through combination synergy effects can also be achieved. However, the application of an instrument still remains useful even if not undertaken in combination with another.

The creation of “*EIA teams*” containing multidisciplinary personnel which accompany projects in the approval procedures on a case-by-case basis can support the work of the competent authorities in the short term as well as the other authorities involved. Additionally, the quality of the EIA procedure can be improved both in terms of content, environmentally and in relation to the process. This can contribute to an increase in the effectiveness and efficiency of EIA.

The “*Project type guidelines*”, in contrast to general guidelines, provide specific support for the different *types* of projects in terms of the applicable legal provisions, the technology at stake etc. This facilitates the legally compliant and efficient realisation of the pro-

cedures, which more than adequately justifies the initial increase in staff expenditure needed for drawing up the guidelines. The preparation of the guidelines needs to be undertaken by multidisciplinary teams.

The two other instruments “*EIA helpdesk*” and the “*legal infoline*” serve to improve the information available to authority staff. The “*EIA helpdesk*” should encompass two fundamental services. On the one hand “*enforcement support according to project type*” is to be offered. This service should provide help and answers on the fundamentals of enforcement as well as on procedures within the scope of the EIA, using electronic guidelines. These guidelines should be organised by project type and should take into consideration respective federal and state laws and particularities. On the other hand a so-called “*online consulting service*” is to be set up which can help the staff of the competent authorities further with regard to questions about guidelines and enforcement. It needs to be considered whether the consulting service – analogously to the REACH-Net helpdesk in North Rhine Westfalia – should be designed in such a way that (also) experts from authorities, science and enforcement can make their knowledge available on a voluntary and unpaid basis. From a similar starting point, although without being specific to proposal types, the “*legal infoline*” instrument would directly provide authority staff at a glance with an online overview of manifold current and relevant legal and sublegal regulations within the scope of the EIA.

The “*certification*” of those who prepare the documentation prior to the EIA in accordance with § 6 of the Federal EIA Act, irrespective of whether voluntarily or as the result of a legal provision (Option 1 and Option 2), can achieve further increases in the quality of such documentation. Since the quality of developer documentation is comparatively good when contrasted with the other stages, the implementation of other instruments should be given priority.

The individual “*transparency and documentation duties*” represent a fundamental element of safeguarding competences in the EIA procedure. They increase the incentives for quality assurance through the option of supervision by third parties. Additionally, they allow for an increase in competencies within the responsible authorities as a result of an improved database and basis for decision-making. For example, an EIA register can make an important contribution to quality assurance because it is possible to draw upon similar cases (easing the work burden by means of method transfer). A share of these tasks can be implemented with relatively little effort and comparatively high additional benefit. However, it is to be assumed that these changes will substantially be realised by the competent stakeholders only via legal provisions.

The “*Specification Manual*” documents the results of the scoping. Both for the authority and the project proponents, it primarily makes for better time and procedure management in combination with the “*Assessment Handbook*” for the competent authorities, thereby serving to improve the procedure as well as to increase transparency therein. Examples in Switzerland or Austria show that the application of such instruments or similar ones has positive effects on the procedure. On the basis of the experiences of these countries, the instrument can be designed according to requirements specific to Germany. It seems to be constructive to create a legal basis for the “*Specification Manual*” and “*Assessment Handbook*” in order to make the participants liable to a certain extent.

Up to now affected third persons have not had sufficient opportunity to take effective remedial action against deficiencies in environmental impact assessment. As a consequence, legal means constitute only a limited incentive for authorities and project proponents to increase the quality of the individual elements of the EIA. Widening the legal protection of third persons would contribute to the aspects of environmental impact assessment being increasingly brought to bear in the decision. Thereby, environmental concerns would be taken into consideration to a higher extent in the approval decisions and would thus also increase, on a case-by-case basis, the protection of those affected by negative environmental effects.

The specification of the extent to which the determined substantial adverse impacts on the environment should be taken into account and also the extent to which the results of the EIA should be taken into consideration in the approval decisions is a fundamental prerequisite for achieving the objectives of the EIA and appropriate enforcement.

“*Monitoring*” of the actual environmental impacts of EIA projects creates – step-by-step – a better data basis for all of the EIA stakeholders. In the long term this can lead to a significant easing of the work burden across all of the EIA stages. A respective legal framework is therefore to be recommended.

The analysis of incentives demonstrates the ways in which institutional innovations can be helpful in closing the incentive gaps that stakeholders face:

- A key insight is that capacity-enhancing instruments are pivotal, thus the “*contact points for the project type*” and the “*administrative consultants*” should be implemented.
- The EIA procedure can be made more efficient when the procedure is shaped so as to focus more strongly on aspects fundamental to the environment.
- Documentation and transparency obligations including the “*Specification Manuals*” for those responsible for preparing the application documents and “*Assessment Handbooks*” for the competent authorities are of key importance in terms of quality assurance, improved opportunities for third parties to take legal action, and comprehensive monitoring.
- Further, the *helpdesk* and the *legal infoline* can help the competent authorities in matters concerning data management.

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

The institute's mission is to analyse and evaluate current and future environmental problems, to point out risks, and to develop and implement problem-solving strategies and measures. In doing so, the Öko-Institut follows the guiding principle of sustainable development.

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

The Environmental Law Division of the Öko-Institut:

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

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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

Main areas of research:

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

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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
- Electronic public participation
- Economic opportunities deriving from environmental legislation
- Self responsibility

sofia is working on behalf of the

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

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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. Since then, elni has grown to a network of about 350 individuals and organisations from all over the world.

Since 2005 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

The Coordinating Bureau was originally set up at and financed by Öko-Institut in Darmstadt, Germany, a non-governmental, non-profit research institute.

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

elni Review

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

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 Brus-

sels area, who are interested in sharing and discussing views on specific topics related to environmental law and policies.

Publications series

- Access to justice in Environmental Matters and the Role of NGOs, de Sadeleer/Roller/Dross, Europa Law Publishing, 2005.
- Environmental Law Principles in Practice, Sheridan/Lavrysen (eds.), Bruylant, 2002.
- Voluntary Agreements - The Role of Environmental Agreements, elni (ed.), Cameron May Ltd., London, 1998.
- Environmental Impact Assessment - European and Comparative; Law and Practical Experience, elni (ed.), Cameron May Ltd., London, 1997.
- Environmental Rights: Law, Litigation and Access to Justice, Deimann / Dyssli (eds.), Cameron May Ltd., London, 1995.
- Environmental Control of Products and Substances: Legal Concepts in Europe and the United States, Gebers/Jendroska (eds.), Peter Lang, 1994.
- Dynamic International Regimes: Institutions of International Environmental Governance, Thomas Gehring; Peter Lang, 1994.
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- Licensing Procedures for Industrial Plants and the Influence of EC Directives, Gebers/Robensin (eds.), P. Lang, 1993.
- Civil Liability for Waste, v. Wilmowsky/Roller, P. Lang, 1992.
- Participation and Litigation Rights of Environmental Associations in Europe, Führ/ Roller (eds.), P. Lang, 1991.

Elni Website: elni.org

On the elni website www.elni.org one finds news of the network and an index of articles. It also indicates elni activities and informs about new publications. Internship possibilities are also published online.