



Project splitting in environmental impact assessment

Álvaro Enríquez-de-Salamanca

To cite this article: Álvaro Enríquez-de-Salamanca (2016) Project splitting in environmental impact assessment, *Impact Assessment and Project Appraisal*, 34:2, 152-159, DOI: [10.1080/14615517.2016.1159425](https://doi.org/10.1080/14615517.2016.1159425)

To link to this article: <http://dx.doi.org/10.1080/14615517.2016.1159425>



Published online: 19 Apr 2016.



Submit your article to this journal [↗](#)



Article views: 108



View related articles [↗](#)



View Crossmark data [↗](#)

Project splitting in environmental impact assessment

Álvaro Enríquez-de-Salamanca 

Escuela de Doctorado, Universidad Nacional de Educación a Distancia (UNED) – DRABA Ingeniería y Consultoría Medioambiental, Madrid, Spain

ABSTRACT

This paper discusses project splitting in environmental impact assessment (EIA), investigating the current state of knowledge through literature, legislation, case-law and practice, discussing problems and providing solutions. The focus is on Spain, but many of the conclusions are applicable worldwide. Project splitting is a much more common practice than generally accepted. The main efforts have been focused on preventing salami-slicing as a mechanism to avoid the EIA, but it is a much more complex problem, with different ways of splitting and reasons for doing so. Measures to avoid this practice should include strengthening the strategic environmental assessment, a greater involvement of the approval authority, specific prohibitions in regulations, using case-by-case examinations instead of thresholds, compulsory scoping and avoid the exclusion of project parts during the EIA.

ARTICLE HISTORY

Received 20 January 2016
Accepted 15 February 2016

KEYWORDS

EIA; project splitting; salami-slicing; Spain

1. Introduction

Environmental impact assessment (EIA) aims to anticipate the effects of projects on the environment. Project splitting may lead to circumventing the need to carry out an EIA or underestimating the environmental impact, affecting the decision-making process.

In this paper, we investigate the current state of knowledge on project splitting, analysing how, why and when a project can be split up; if it is premeditated or not (and whether either is acceptable); how project splitting affects EIA; what types of projects are usually split up; and how this practice can be detected and avoided.

Two essential information sources are case-law and case studies, requiring an in-depth analysis, so it is advisable to limit the research scope. In our case, the main focus has been on Spain, and by extension, the European Union (EU), although with a wider scope in the literature review. Many cases, problems and solutions presented are applicable worldwide, but the specificity of the Spanish EIA process and case-law implies that this paper would not be a global review of the topic, but an approach from this country.

The methodology used includes a first phase of literature review of (academic and 'grey') reports, legislation and case-law. To locate useful information, we have used databases and search engines, looking for keywords such as 'split', 'splitting', 'slicing', 'division', 'fragmentation' or 'staged', as well as cross-references in the literature and case-law. We have used academic databases for papers and general and institutional search engines for reports and 'grey literature'. For legal

review, we have sought references to project splitting on EU and Spanish EIA regulations. To search case-law, we have used databases on judgements (CURIA for EU and CENDOJ for Spain) and references to cases in reports and judgements. Once the current state of knowledge is established, we have made a discussion and proposals.

2. State of knowledge

2.1. Reports and literature

Project splitting is not included among the main complaints, weaknesses or threats associated with EIA (Pinho et al. 2010; Bond & Pope 2012; Morgan 2012). It has not received much attention in literature, or is even considered a thing of the past (Jiricka & Pröbstl 2009).

The most widely used term is 'salami-slicing', defined as the practice of splitting a project into a number of separate ones that individually do not exceed the EIA screening threshold or do not have significant effects on a case-by-case examination, and therefore may not require EIA, but might have significant impacts when taken into consideration as a whole (EC 2003); the practice of dividing projects into two or more separate entities so that each element does not require an EIA and the project as a whole is not assessed (EC 2009a); the practice of obtaining permission for a project that is below an EIA threshold and at a later date extending above these limits (EC 2009a); or the artificial cut of a project into pieces in order to win approval, obtaining authorization for the less environmentally questionable parts, and making the

development of the rest of the project a fait accompli (J&E 2006, 2013).

The main information sources are studies on the implementation and effectiveness of the EIA Directive, highlighting that the purpose of the Directive cannot be circumvented by project splitting (EC 2003, 2009a, 2009b, 2013, 2015; Cornaro et al. 2005; Ekmetzoglou-Newson 2005; Tabellini & Aspinwall 2005; EU 2008; GHK 2008; Committee of the Regions 2010; Glasson et al. 2012). Most of these reports are based on EU Court case-law analysis.

Several documents consider that case-by-case screening decisions are better than those based on thresholds in order to avoid project splitting (Cornaro et al. 2005; EC 2009b; Pinho et al. 2010; Lund-Iversen & Mete 2013). Others note deficiencies in the screening process that favour splitting, especially with thresholds and project selection and lack of consistency and quality in this process (Ekmetzoglou-Newson 2005; Baker et al. 2013; Lund-Iversen & Mete 2013) or propose to simplify and clarify the screening mechanism (EC 2009a; Committee of the Regions 2010).

Project splitting is recognized by most EU Member States, but only a few of them have specific provisions to prevent it (Table 1), mainly focusing on salami-slicing with very little real evidence of how widespread the practice may be (EC 2003, 2009b; IMPEL 2012).

In conclusion, there is a clear dominance of literature from the EU, largely related to the implementation of the EIA Directive, with an association between project splitting and salami-slicing and little attention to other types of division, such as the separation of some activities. There is consensus about the greater effectiveness of case-by-case consultations instead of thresholds. The solutions adopted by countries are mainly related to the definition and scope of the project.

2.2. EU and Spanish EIA legislation

Spain has shared jurisdiction with the EU on environmental legislation. EU Directives are transposed into Spanish legislation by the Central State, being basic

legislation for both the State and the Autonomous Communities.

Article 2 of the EIA Directive 2014/52/EU (EU 2014) indicates, as with previous Directives, that Member States shall adopt measures to ensure that projects likely to have significant effects on the environment are subject to an assessment. It also indicates that screening and the EIA should take into account the impact of the whole project, during the construction, operational and, where relevant, demolition phases. The splitting of a project to avoid the EIA is in conflict with this Directive (see Section 2.1).

The Spanish EIA Law 21/2013 (BOE 2013) establishes two types of processes, ordinary (Annex I) and simplified (Annex II). Each annex has a list of projects and thresholds, using a mixed model of thresholds and case-by-case consultation in Annex II projects, as with most EU Member States (Pinho et al. 2010). This Law also indicates that projects that may be presented in segmented form but that jointly reach the thresholds of Annexes I or II, must be submitted to EIA, but there is no mechanism for detecting this situation. The repealed Law 6/2010 (BOE 2010) had an explicit reference to project splitting, indicating that the EIA shall include the entire project and not only partial EIAs of each phase or part, but this requirement has not been incorporated into Law 21/2013.

2.3. Case-law

An essential source of knowledge on project splitting is case-law, which does not always coincide with the points of view of both the evaluators and the practitioners. Most studies which address project splitting include references to case-law because, whether the opinion of the magistrates is shared or not, it is what establishes the administrative action.

We have analysed the main judgements of the EU and Spanish courts with reference to project splitting, extracting the main issues (Table 2). EU case-law focuses on the compliance with the EIA Directives, while Spanish Courts, although following EU case-law, are much more specific, usually focusing on the intentionality, without

Table 1. Measures to avoid project splitting in EU countries.

Measure to avoid project splitting	Country that applies
Apply EIA below the thresholds if necessary	Portugal
Assess the scope of the project in the screening phase	Sweden
Consider all the associated developments part of a project	Netherlands
Consider changes approved during the previous 5 years	Austria
Consider extension of projects not previously subject to EIA	Germany
Consider projects together if they are connected with common facilities	Germany
Consider projects together if they are on the same site	Germany
Consider projects together if they serve for a comparable purpose	Germany
Consider projects together if they are connected technologically	Poland, Denmark
Low mandatory thresholds	Ireland
Requirements to consider a project as independent	Germany, United Kingdom
Treat different developers as a single one	Sweden
Use case-by-case screening	Denmark, Finland, Spain
Wider definition of the term 'project'	Austria

Source: EC (2003) and IMPEL (2012).

Table 2. Main EU and Spanish case-law about project splitting.

Case and reference	Subject	Key issues
C-392/96 (CJEC 1999)	Afforestation, peat extraction. Ireland	It is unacceptable to set thresholds without ensuring that the purpose of the legislation is not circumvented by the splitting of the projects
C-227/01 (CJEC 2004)	Railway. Spain	EIA Directive could be compromised if it is only necessary to split up a project into shorter sections to exclude it from the requirements
780/2001 (NA 2005)	Wind farm	Splitting up into several independent projects is not possible, because this division makes EIA ineffective
5814/2003 (SC 2006)	Wind farm	It is impossible to divide the activity because of the unitary nature of the project, although it is located between two Autonomous Communities
727/2006 (NA 2007)	Motorway	Splitting is due to budgetary reasons and implementation priorities, not to avoid the EIA
C-142/07 (CJEC 2008)	Motorway. Spain	Project divided into 15 subprojects under EIA thresholds. The judgement forced a further EIA
8757/2003 (SC 2008a)	Railway	No infringement found because there is no danger of successive project splitting to circumvent EIA
542/2006 (SC 2008b)	Motorway	There is no regulation that bans the splitting of projects in large-scale actions. The parts are submitted to EIA, not trying to avoid this process
C-205/08 (CJEC 2009)	Power line. Austria and Italy	EIA Directive cannot be circumvented by the splitting of projects. Failure to take into account cumulative effects of projects must not mean that they all cease to be covered by the obligation to carry out an assessment
767/2008 (SCJ 2009)	Wind farm	The project is not a wind farm, but part of one, because it is not self-sufficient. The EIA must take into account the power line and substation, and the cumulative and synergistic effects of other existing facilities
473/2007 (SC 2010a)	Power substation	It is not possible to assume that any project must be processed together, because it would be impossible when due to size or cost it must be split. It shall be determined in each case if it is a fraudulent splitting or a legitimate partial action. The most important criteria is whether the splitting appears to be artificial, to avoid conditions, or respond to a progressive planning
7523/2005 (SC 2010b)	Road	Reject the objections about splitting because the project does not hide that it is part of a major infrastructure
1537/2007 (SCJ 2010a)	Wind farms	Studies of several isolated units are not the same as a study of a unitary wind farm. In the latter case, environmental effects could be larger
891/2007 (SCJ 2010b)	Wind farms	There is only one transformer station for all the turbine groups so it should be understood that all of them constitute a single wind farm
211/2008 (SCJ 2010c)	Wind farms	Discuss if a project has been split up into five parts. Accesses are different and each wind farm has its own power line linking the turbines with the substation, so they are not split artificially, but motivated by the terrain
362/2008 (SCJ 2010d)	Wind farm	It has been split up into two parts, turbines and electric infrastructure
117/2010 (SCJ 2010e)	Wind farm	The inclusion of wind farms and power lines in different epigraphs of the EIA Law does not mean that they should be assessed in a split manner
C-560/08 (CJEC 2011)	Road. Spain	There is a splitting of a road widening project into sections, without EIA in some of them, and without a global impact assessment
4060/2009 (SC 2013a)	Hydraulic works	It is not possible to split up projects depending on regional or local jurisdictions, subject to successive assessments
4907/2010 (SC 2013b)	Wind farms	Consider that each one of three wind farms has its own access and power line so they are not split up artificially
673/2009 (SCJ 2014a)	Wind farms	It is necessary to avoid disproportionate solutions, as including in a unique project all the wind farms located in the same province
1220/2011 (SCJ 2014b)	Wind farm	A wind farm project is divided into two, with a split up of the initial project
3507/2013 (SC 2015a)	Wind farms	The need for analysing synergistic and cumulative effects of different projects does not imply that all of them have to be covered by the same EIA process. Each wind farm is individual, but their effects can cumulatively affect the area where they are located
2190/2012 (SC 2015b)	Port	Reject the claim that the project has been divided into stages to reduce the importance of their impacts

Notes: CJEC – Court of Justice of the European Communities, NA – National Audience of Spain, SC – Supreme Court of Spain, SCJ – Spanish Regional Superior Courts of Justice.

paying much attention to the actual environmental impacts.

2.4. Spanish EIA practice

When possible project splitting is detected by the environmental agency during the EIA, three types of actions are taken: request additional information about the parts not considered, exclude some parts of the project from the EIA or nothing is indicated about possible omitted parts in the final EIA resolution. Currently, the most common is to request additional information. It is less frequent to exclude parts of the EIA, although there are cases from the 2010s.

3. Discussion and recommendations

3.1. How can a project be split up?

There are two types of project splitting, into homogeneous or heterogeneous parts (Carrasco & Enríquez-de-Salamanca 2010). In homogeneous splitting, a project is divided into similar but smaller parts, the so called salami-slicing (e.g. divide a road section in several smaller projects), while in heterogeneous splitting, projects with several actions are separated by activities (e.g. separate the railway platform and the electrification). There is also a staged splitting in projects developed in phases, which can also be homogeneous or heterogeneous.

3.2. Why is a project split up?

Project splitting is usually associated with the attempt of the developer to avoid the EIA or facilitate the approval (EC 2003, 2009a; J&E 2006, 2013), but it is not the sole objective. Other reasons may exist such as (i) jurisdictional, due to different authorities involved in project approval; (ii) commercial, depending on the developers, investment possibilities or business objectives; (iii) organizational, by the need of dividing the project in stages; (iv) budgetary, to take on works financially; or (v) specialization in the works, separating different activities (earthworks, energy, drainage, facilities...).

The different meaning and definition of 'project' also has an influence. In engineering, it is a technical document describing specific works, while in the EIA, it is an action or a group of actions to be developed. The EIA Directive gives an ambiguous definition of 'project' (Glasson et al. 2012) including works, installations, schemes or interventions.

3.3. Is project splitting premeditated?

Project splitting may be premeditated or involuntary. In the first case, it may be well intentioned (e.g. organizational or budgetary reasons) or in bad faith (to evade the EIA or facilitate approval). When involuntary, reasons can be an unforeseen series of projects in the same area or unexpected changes that demand the need for new projects or extensions of those already approved.

From the technical point of view, the intentionality in the splitting is of little importance (Marsden 2011), since what really matters are the environmental effects, but from the judiciary, it is essential to know if the splitting is intentional or artificial, to avoid the EIA, or not (SC 2008a, 2008b, 2010a, 2010b; SCJ 2009, 2010c).

3.4. When can a project be split up?

A project may be split up at any time, from the original idea to execution. The key issue is when the EIA is made, because if the splitting is carried out before that it will be affected.

Large-scale actions are the most likely to be split up, as between the provisions of a plan and the projects to be developed there is always a division; the key question here is to determine whether the project has been split up, in the pejorative sense of the term, or it is a logical planning step, as indicated by case-law (SC 2010a; SCJ 2014a).

3.5. Is project splitting acceptable?

Obviously, project splitting in order to avoid EIA is unacceptable (see Sections 2.1 and 2.2). Case-law (SC 2006, 2013a) indicates that differences in the approval jurisdictions do not justify the splitting.

Commercial, organizational and budgetary reasons have much in common in relation to project splitting. Developers, whether public or private, try to carry out their projects quickly, efficiently and profitably. Each developer has different expectations and possibilities, so they logically adapt the projects to their convenience. Most reports about EU Directive (see 2.1) seem to point to an indivisibility of projects, which in practice is impossible. Magistrates, on the contrary, note that somehow projects must be divided, especially if they have a certain magnitude (SC 2008b, 2010a; SCJ 2014a).

With respect to specialization in the works, case-law indicates that the inclusion of activities in different epigraphs of the EIA Law does not mean that they are autonomous projects (SCJ 2010e) and several countries treat different developers as a single entity if the projects are connected (Table 1). The fact that an action could be developed through two or more technical projects does not imply that they should be assessed separately.

There is no single answer to the question of whether project splitting per se is acceptable or not. Although the opinion of the EIA practitioners and evaluators is undoubtedly important, the only legally relevant opinion is that of the magistrates, and therefore case-law is a key issue in this topic. This could create a 'fear of legal challenge', despite the fact that only a small proportion of cases end up in the courts (IEMA 2011).

Magistrates accept splitting cases when there is no danger of successive splitting (SC 2008a), the projects do not have to be processed together (SC 2010a), developers do not hide the fact that they are a part of major projects (SC 2010b), there is no artificial splitting (SCJ 2010c; SC 2013b, 2015a), splitting into stages does not try to reduce the importance of the environmental impacts (SC 2015b), or due to budgetary and implementation priorities (NA 2007).

In conclusion, project splitting could be technically acceptable if reasonably associated with planning and judicially if magistrates approve it.

3.6. How does project splitting affect EIA?

Screening is the process by which a decision is taken on whether or not the EIA is required (EC 2001), so any splitting before this phase affects the EIA. There are two main screening approaches: thresholds, a development-centred approach, where regulations specify the type of projects subject to the EIA; and case-by-case analysis, an environment-centred approach, focused on the probable environmental impacts and their significance (Morrison-Saunders 2011; Glasson et al. 2012; Macintosh & Waugh 2014). Most EU Member States, Spain among them, have adopted both approaches (Pinho et al. 2010).

The EIA thresholds depend on dimensions such as length, number, type or volume, which could be circumvented by splitting the projects, but splitting does not

always mean avoiding the EIA; sometimes, all the parts resulting from the splitting are subject to EIA, but in partial processes, without a global assessment and usually underestimating the overall impact.

Splitting affects the definition of alternatives in the EIA, that could be made only for short sections, without a wider scope (J&E 2012). It also affects the assessment of the contribution to climate change, required by the Spanish EIA Law and the EU Directive, although it has not been taken into consideration very much until now (Enríquez-de-Salamanca et al. 2016). Fragmentary analysis of greenhouse gas emissions leads to underestimating the impact of individual projects, not applying mitigation or compensation measures.

Most reports on the implementation of the EIA Directive associate salami-slicing with cumulative impacts. Case-law states that the need for analysing synergistic and cumulative effects of different projects does not imply that all of them have to be covered by the same EIA process (SC 2015a). This analysis may be done through a 'cumulative effects assessment' (Therivel & Ross 2007).

3.7. What types of projects are usually split up?

Any project is potentially divisible (e.g. according to their length or capacity or separating its components). Analysing the situation in Spain, we have highlighted a series of projects that have usually been split up, relating other cases worldwide to them (Table 3). In some cases, the splitting has been reported, but many others have been ignored or accepted in the EIA, and there is no literature or case-law on them. Moreover, cited cases are those with evidence of splitting, but the lack of information or certainty in others does not mean that it does not exist. There is probably an important 'grey splitting' which is unknown or tolerated.

3.8. How can splitting be detected?

Except in clearly obvious cases, splitting may be difficult to detect, even when paying special attention to the case. Case-by-case consultations are more effective than thresholds to avoid splitting, although not fully guarantee its detection. Project splitting is detectable when all the parts are processed simultaneously by the same environmental authority, but if there are different jurisdictions, or the projects do not coincide temporarily, it would be difficult.

Thresholds favour projects that do not reach them (Glasson et al. 2012), a 'design under-thresholds'. It is also possible to accommodate to case-law; e.g. the case-law consider a wind farm independent when it has a specific access and power line (SCJ 2010c; SC 2013b), and this promotes the design of small wind farms fulfilling these conditions, a 'splitting engineering'.

3.9. How can splitting be avoided?

3.9.1. Planning

Strategic planning and strategic environmental assessment (SEA) help to determine the scope of the project, avoid successive projects and assess the overall impact of an action, but it does not always exist. Governments (Central or Regional) should pay attention to strategic planning, because they cannot solve the absence of a planning regime by arbitrarily approving or banning new projects. In wind farms, the implementation of regional wind power plans is essential to define the farms that can be built. In water management and transport infrastructure, there are already plans, but they should go further; they are often too general, so there is a big gap between strategic planning and SEA, and detailed planning and EIA. SEA also provides a solution to the assessment of the contribution to climate change in large-scale actions.

A tool to assess phased projects is staged or tiered assessment, used in countries such as USA, Australia, Canada, UK or China (Kreske 1996; EPA 2009; Xu et al. 2013; Kostka & Zischke 2015), which consists in conducts two or more rounds or 'tiers' of environmental review instead of a single environmental impact statement for the entire project (PB Americas, Perkins Coie 2009). This is also a possible strategy to manage the risks inherent in the development of large projects (Joseph et al. 2015). The legal framework for this assessment in Spain is difficult because it affects programmes (i.e. a series of projects over time), and so SEA, not EIA. There are doubts whether staged licensing could favour project splitting (MLRC 2014).

3.9.2. Authorization

The main effort to avoid splitting should be made by the approval authority, which has more information on the medium- and long-term expectations than the environmental authority, which also has no ability to ban the developer from presenting projects when deemed appropriate. In addition, as case-law indicates, there is no regulation that bans the splitting of projects in large-scale actions (SC 2008b).

3.9.3. EIA regulations

EIA regulations should include a prohibition on project splitting. Spanish Law 21/2013 has been a step back from previous laws (see Section 2.2). This prohibition should be less relevant in countries using only environment-centred approaches to screening.

As noted, the screening through case-by-case examinations is better to avoid salami-slicing, but there is no full efficacy guarantees.

In projects subject to EIA directly, a scoping phase is useful to detect splitting; the elimination of compulsory scoping in the Spanish EIA Law 21/2013 does not help in this regard, so it would be highly desirable to recover it.

Table 3. Cases of project splitting in Spain and international references.

Project type	Splitting form	Parts	Observations
Roads and railways	Homogeneous	Salami-slicing in sections	Large-scale projects are split up during planning; depending on how it could be acceptable. There is case-law (Table 2) and references for Austria, Hungary, Czech Republic, Romania (J&E 2006, 2012, 2013) and Hong Kong (Marsden 2011)
	Heterogeneous	Infrastructure/earth-loans and landfills	Until the 2000s, earth-loans and landfills were frequently excluded from the infrastructure EIA (Enriquez-de-Salamanca & Carrasco 2009). Nowadays, it is much less common, although sometimes unexpected areas are needed during construction
		Motorways/service areas	A practice still not resolved. Firstly, the road project is subject to EIA and later, in an independent project, the service areas, despite its relationship, and that it would be possible to foresee their location from the beginning
Wind farms	Homogeneous	Wind farms slicing	Separation of power lines and substations from platform, assessing independently. Power lines should have significant impacts, but if the platform is built, their approval is forced
	Heterogeneous	Wind farms/electrification	Salami-slicing has been used to facilitate approval or for jurisdictional reasons. Case-law (Table 2) indicates that a wind farm is independent if it has its own access and power line
Reservoirs and water management	Heterogeneous	Dam/accesses/road diversion/power transport	Not uncommon a few years ago, although it is now. Case-law indicates that if a wind farm is not self-sufficient is not a project but part of one (SCJ 2009)
	Homogeneous	Dams/channels/transfers	These projects include different activities favouring splitting. In the 2010s, there have been splitting cases in dam projects, where power plants or lines are excluded from EIA. There is also case-law (SC 2013a)
Mining	Heterogeneous	Exploitations slicing	The Spanish National Hydrological Plan, now repealed, involved 863 individual works and over 100 dams with an EIA covering only individual parts of the plan (Hoedeman 2005)
	Homogeneous	Infrastructure/earth-loans	The large number of extraction sites scattered across the country, although much of them illegal, does not correspond to the EIA processes carried out. The use of thresholds favours splitting or adapting the projects to them. There are also references in Denmark (Bidstrup 2016) and case-law in Ireland (CJEC 1999)
Livestock	Heterogeneous	Splitting by cattle number	As stated above for roads and railways
	Homogeneous	Splitting by area	Livestock farms are subject to EIA depending on cattle amount. These thresholds lead to a systematic adaptation of projects to avoid reaching them. There are also references for Denmark (Hoedeman 2005; Christensen 2006)
Agriculture and forestry	Homogeneous	Splitting by area	EIA is based on area thresholds, favouring project splitting. Most afforestation projects on agricultural land supported by European funds did not exceed thresholds, and were not subject to EIA. There is case-law in Ireland (CJEC 1999)
Power transport	Homogeneous	Slicing	There is case-law for a substation in Spain (SC 2010a) and a power line in Austria and Italy (CJEC 2009)
	Heterogeneous	Splitting	As stated above for dams and wind farms
Waste	Heterogeneous	Waste site/operation	No evidence in Spain. There is a reference in the UK for a waste site separate from operation (Lewis & Westaway 2011)
Industry	Homogeneous	Salami-slicing	No evidence in Spain. Cited in small industries exempt of EIA in India (Panigrahi & Amirapu 2012)

3.9.4. EIA practice

All the EIA documents should describe the project scope and parts, related plans, programs or projects and future prospects, assessing all the parts. The environmental authority should verify if all the actions necessary for the project implementation and operation have been included.

When possible splitting is detected, additional information should be requested about the parts that have been excluded. The exclusion of project parts in the EIA involves assuming that the splitting is acceptable, and saying nothing about excluded parts creates a legal vacuum about whether these parts are covered or not by the EIA.

4. Conclusions

Project splitting could lead to EIA being avoided, or to partial EIA processes without a global assessment. It is difficult to detect when project parts are not processed simultaneously. Project splitting in Spain, and probably worldwide, is a much more common practice than

accepted. The main efforts have focused on preventing salami-slicing as a mechanism to avoid the EIA, but it is a more complex problem, with different types of splitting and reasons. Measures to avoid this practice include strengthening the SEA, greater involvement of the approval authority, specific prohibitions in regulations, use a case-by-case examination instead of thresholds, compulsory scoping and avoid the exclusion of project parts during the EIA.

Acknowledgements

We would like to thank Riki Therivel and the reviewers for their comments and suggestions.

Disclosure statement

The author has no conflicts of interest.

Funding

This work has received support of the Spanish Program of Research, Development and Innovation under project [CTM2014-56668-R].

ORCID

Álvaro Enríquez-de-Salamanca  <http://orcid.org/0000-0002-8492-5216>

References

- Baker J, Sheate WR, Phillips P, Eales R. 2013. Ecosystem services in environmental assessment – help or hindrance? *Environ Impact Assess Rev.* 40:3–13.
- Bidstrup M. 2016. The 'grey' assessment practice of IA screening: prevalence, influence and applied rationale. *Environ Impact Assess Rev.* doi:10.1016/j.eiar.2015.07.008
- BOE. 2010. Ley 6/2010, de 24 de marzo, de modificación del texto refundido de la Ley de Evaluación de Impacto Ambiental de proyectos, aprobado por el Real Decreto Legislativo 1/2008, de 11 de enero; [cited 2015 Dec 7]. Available from: <https://www.boe.es/buscar/doc.php?id=BOE-A-2010-4908>
- BOE. 2013. Ley 21/2013, de 9 de diciembre, de evaluación ambiental; [cited 2015 Dec 7]. Available from: http://www.boe.es/diario_boe/txt.php?id=BOE-A-2013-12913
- Bond A, Pope J. 2012. The state of the art of impact assessment in 2012. *Impact Assess Project Appraisal.* 30(1):1–4.
- Carrasco MJ, Enríquez-de-Salamanca A. 2010. Evaluación de impacto ambiental de infraestructuras. Redacción y tramitación de documentos [Environmental impact assessment on infrastructure. Drafting and processing of documents]. Madrid: AENOR.
- Christensen P. 2006. Danish experiences on EIA of livestock projects. *Environ Impact Assess Rev.* 26:468–480.
- CJEC. 1999. Judgment of the Court (Fifth Chamber) of 21 September 1999. Case C-392/96. Commission of the European Communities v Ireland.
- CJEC. 2004. Judgment of the Court (Second Chamber) of 16 September 2004. Case C-227/01. Commission of the European Communities v Kingdom of Spain.
- CJEC. 2008. Judgment of the Court (Third Chamber) of 25 July 2008. Case C-142/07. *Ecologistas en Acción-CODA v Council of Madrid.*
- CJEC. 2009. Judgment of the Court (Second Chamber) of 10 December 2009. Case C-205/08. *Umweltanwalt von Kärnten v Kärntner Landesregierung.*
- CJEC. 2011. Judgment of the Court (Fifth Chamber) of 15 December 2011. Case C-560/08. *European Commission v Kingdom of Spain.*
- Committee of the Regions. 2010. Opinion of the Committee of the Regions on improving the EIA and SEA directives. ENVE-V-001. 84th plenary session.
- Cornaro A, Correia MR, Dallhammer E, Hilding-Rydevik T, Lexer W, Mayer S, Pinho P, Santos S. 2005. IMP3 policy options. D 5.2. Final report. Improving the implementation of environmental impact assessment. Sixth Framework Program. Vienna: Österreichisches Institut für Raumplanung – European Union.
- Enríquez-de-Salamanca A, Carrasco MJ. 2009. Manual de gestión y restauración de zonas de préstamos y vertederos en obras civiles [Manual on management and restoration of earth-loans and landfills in civil works]. Madrid: Ministerio de Fomento – Ministerio de Medio Ambiente y Medio Rural y Marino.
- Enríquez-de-Salamanca A, Martín-Aranda RM, Díaz-Sierra R. 2016. Consideration of climate change on environmental impact assessment in Spain. *Environ Impact Assess Rev.* 57:31–39.
- EC. 2001. Guidance on EIA. Screening. Luxembourg: European Commission.
- EC. 2003. Report from the Commission to the European Parliament and the Council on the application and effectiveness of the EIA Directive (Directive 85/337/EEC as amended by Directive 97/11/EC). How successful are the Member States in implementing the EIA Directive. COM/2003/0334. Brussels: European Commission.
- EC. 2009a. Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the application and effectiveness of the EIA Directive (Directive 85/337/EEC, as amended by Directives 97/11/EC and 2003/35/EC). COM/2009/0378. Brussels: European Commission.
- EC. 2009b. Study concerning the report on the application and effectiveness of the EIA Directive. Final report. DG ENV, Brussels: European Commission.
- EC. 2013. Environmental impact assessment of projects. Rulings of the Court of Justice. European Commission; [cited 2015 Nov 29]. Available from: http://ec.europa.eu/environment/eia/pdf/eia_case_law.pdf
- EC. 2015. Interpretation of definitions of project categories of annex I and II of the EIA Directive. European Commission; [cited 2015 Nov 29]. Available from: http://ec.europa.eu/environment/eia/pdf/cover_2015_en.pdf
- Ekmetzoglou-Newson T. 2005. V.3.5.1. The EIA Directive. In: Scheuer S, editor. EU environmental policy handbook. A critical analysis of EU environmental legislation. Making it accessible to environmentalists and decision makers. Brussels: European Environmental Bureau; p. 228–236.
- EPA. 2009. Review of the environmental impact assessment process in Western Australia. Environmental Protection Authority; [cited 2016 Jan 8]. Available from: http://epa.wa.gov.au/EPADocLib/2898_EIARReviewReportFinal30309.pdf
- EU. 2008. Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (EIA Directive) 2008-022. Interpretation of definitions of certain project categories of annex I and II of the EIA Directive. European Union; [cited 2015 Dec 9]. Available from: http://ec.europa.eu/environment/archives/eia/pdf/interpretation_eia.pdf
- EU. 2014. Directive 2014/52/EU of the European Parliament and of the council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. European Union; [cited 2015 Dec 7]. Available from: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0052>
- GHK. 2008. Evaluation on EU legislation. Directive 85/337/EEC (Environmental Impact Assessment, EIA) and associated amendments. Final report. GHK; [cited 2016 Jan 8]. Available from: http://ec.europa.eu/environment/eia/pdf/Evaluation_of_EIA.pdf
- Glasson J, Therivel R, Chadwick A. 2012. Introduction to environmental impact assessment. 4th ed. Abingdon: Routledge.
- Hoedeman F. 2005. V.3.5.2. The SEA Directive. In: Scheuer S, editors. EU environmental policy handbook. A critical analysis of EU environmental legislation. Making it accessible to environmentalists and decision makers. Brussels: European Environmental Bureau; p. 237–246.
- IEMA. 2011. The state of EIA practice in the UK; [cited 2015 Dec 7]. Available from: <https://www.iema.net/system/files/iema20special20report20web.pdf>
- IMPEL. 2012. The implementation of the environmental impact assessment on the basis of precise examples. Final report. [cited 2015 Nov 29]. Available from: <http://impel.eu/wp-content/uploads/2013/01/IMPEL-EIA-Report-final.pdf>
- Jiricka A, Pröbstl U. 2009. One common way – the strategic and methodological influence on environmental planning across Europe. *Environ Impact Assess Rev.* 29:379–389.

- Joseph C, Gunton T, Rutherford M. 2015. Good practices for environmental assessment. *Impact Assess Project Appraisal*. 33:238–254.
- J&E. 2006. EIA and transport infrastructure. Position paper. Justice and environment; [cited 2015 Nov 24]. Available from: http://www.justiceandenvironment.org/_files/file/wp-upload/JE2006EITPositionpaper.pdf
- J&E. 2012. The EIA in selected member states. Report and case studies. Justice and environment; [cited 2015 Nov 29]. Available from: http://www.justiceandenvironment.org/_files/file/2012/EIAcomprehensivereport2012_1.pdf
- J&E. 2013. Implementation of the environmental impact assessment directive in the EU member states. Case-law examples from the practice of the European environmental impact assessment legislation. Legal analysis. Justice and environment; [cited 2015 Nov 29]. Available from: http://www.justiceandenvironment.org/_files/file/2013/EIAImplementationLegalAnalysis2013.pdf
- Kostka SL, Zischke MH. 2015. Practice under the California Environmental Quality Act. 2nd ed. Oakland: Ceb.
- Kreske DL. 1996. Environmental impact statements. A practical guide for agencies, citizens and consultants. New York (NY): Wiley.
- Lewis M, Westaway N. 2011. Public participation in UK CCS planning and consent procedures. In: Havercroft I, Macrory R, Stewart RB, editors. Carbon capture and storage. Emerging legal and regulatory issues. Oxford: Hart Publishing; p. 297–304.
- Lund-Iversen M, Mete S. 2013. EIA screening. Norwegian Institute for Urban and Regional Research; [cited 2015 Dec 7]. Available from: <http://www.nibr.no/filer/2013-105.pdf>
- Macintosh A, Waugh L. 2014. Compensatory mitigation and screening rules in environmental impact assessment. *Environ Impact Assess Rev*. 49:1–12.
- Marsden S. 2011. Assessment of transboundary environmental effects in the Pearl River Delta Region: is there a role for strategic environmental assessment? *Environ Impact Assess Rev*. 31:593–601.
- MLRC. 2014. Discussion paper: Manitoba's environmental assessment and licensing regime. Manitoba Law Reform Commission; [cited 2016 Jan 7]. Available from: http://www.manitobalawreform.ca/pubs/pdf/additional/Discussion_Paper_Jan27.pdf
- Morgan RK. 2012. Environmental impact assessment: the state of the art. *Impact Assess Proj Appraisal*. 30:5–14.
- Morrison-Saunders A. 2011. Principles for effective impact assessment: examples from Western Australia. In IAIA11 Impact Assessment and Responsible Development for Infrastructure, Business and Industry, 31st Annual Conference of the International Association for Impact Assessment, 28 May – 4 June 2011; Puebla, Mexico; [cited 2016 Dec 6]. Available from: <http://www.iaia.org/conferences/iaia11/uploadedpapers/finaldrafts/PrinciplesforEffectiveImpactAssessment,ExamplesfromWesternAustralia.pdf>
- NA. 2005. Judgment of the National Audience of 12 January 2005. Case 780/2001.
- NA. 2007. Judgment of the National Audience of 18 May 2007. Case 727/2006.
- Panigrahi JK, Amirapu S. 2012. An assessment of EIA system in India. *Environ Impact Assess Rev*. 35:23–36.
- PB Americas, Perkins Coie. 2009. Guidelines on the use of tiered environmental impact statements for transportation projects. American Association of State Highway and Transportation Officials; [cited 2016 Jan 8]. Available from: [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25\(38\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25(38)_FR.pdf)
- Pinho P, McCallum S, Santos Cruz S. 2010. A critical appraisal of EIA screening practice in EU Member States. *Impact Assess Project Appraisal*. 28:91–107.
- SC. 2006. Judgment of the Supreme Court of 20 April 2006. Case 5814/2003.
- SC. 2008a. Judgment of the Supreme Court of 31 January 2008. Case 8757/2003.
- SC. 2008b. Judgment of the Supreme Court of 8 October 2008. Case 542/2006.
- SC. 2010a. Judgment of the Supreme Court of 9 February 2010. Case 473/2007.
- SC. 2010b. Judgment of the Supreme Court of 21 April 2010. Case 7523/2005.
- SC. 2013a. Judgment of the Supreme Court of 30 January 2013. Case 4060/2009.
- SC. 2013b. Judgment of the Supreme Court of 11 December 2013. Case 4907/2010.
- SC. 2015a. Judgment of the Supreme Court of 13 July 2015. Case 3507/2013.
- SC. 2015b. Judgment of the Supreme Court of 14 September 2015. Case 2190/2012.
- SCJ. 2009. Judgment of the Superior Court of Justice of Valladolid of 10 June 2009. Case 767/2008. Resolution 1448/2009.
- SCJ. 2010a. Judgment of the Superior Court of Justice of Valladolid of 13 April 2010. Case 1537/2007. Resolution 404/2010.
- SCJ. 2010b. Judgment of the Superior Court of Justice of Valencia of 29 April 2010. Case 891/2007. Resolution 505/2010.
- SCJ. 2010c. Judgment of the Superior Court of Justice of Burgos of 10 May 2010. Case 211/2008. Resolution 333/2010.
- SCJ. 2010d. Judgment of the Superior Court of Justice of Burgos of 21 May 2010. Case 362/2008. Resolution 373/2010.
- SCJ. 2010e. Judgment of the Superior Court of Justice of Burgos of 17 September 2010. Case 117/2010. Resolution 572/2010.
- SCJ. 2014a. Judgment of the Superior Court of Justice of Valladolid of 21 February 2014. Case 673/2009. Resolution 389/2014.
- SCJ. 2014b. Judgment of the Superior Court of Justice of Valladolid of 26 June 2014. Case 1220/2011. Resolution 1361/2014.
- Tabellini L, Aspinwall D. 2005. Environmental impact assessment of public and private projects. EIA Directive 85/337/EEC as amended by 97/11/EC and 2003/35/EC. Cohesion fund workshop. Prague: European Commission.
- Therivel R, Ross B. 2007. Cumulative effects assessment: does scale matter? *Environ Impact Assess Rev*. 27:365–385.
- Xu X, Tan Y, Yang G. 2013. Environmental impact assessments of the Three Gorges project in China: issues and interventions. *Earth Sci Rev*. 124:115–125.