**Using Sustainable Development Goals to develop EIA scoping practices: The case of Denmark**

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**Abstract**

Environmental assessments (EA) are in research and policy expected to be a vehicle for achieving the UN Sustainable Development Goals (SDGs). It has been argued that scoping of EA, both on project and strategic levels, can be broadened to encompass the 17 goals and thereby strengthen the commitment towards sustainable development. However, studies exploring the integration of EA practice and SDGs remain scarce. This article contributes to the understanding of how EA practice on the project level can utilize the SDGs to further develop its scope. The case study focuses on a high-income context, which has a significant influence on the results of the study. A review of recent Danish cases of EIA reports shows the potential for a broader scope than the biospheric and environmental parameters that dominate an EIA context. The results show that, within a Danish EIA context, the SDGs can help to qualify and strengthen the process of scoping for mandatory parameters in especially ‘population & human health’ and hereby contribute to a more comprehensive implementation of the parameter as required by the European EIA Directive.

# Introduction

The 17 Sustainable Development Goals (SDGs) as proposed by the United Nations in 2015 currently lead the worldwide political agenda in guiding sustainable development. They address the most prominent world challenges whose complexity requires delving into finer details that are directed at fulfilling these goals in practice. In response, the UN has coupled the SDGs with a set of 169 targets that make the 17 goals more tangible (UN 2015). These targets are further measured on the basis of 231 unique indicators that aim to produce a homogenous way to measure the progress of the goals across countries and regions (UN 2015).

Governments are thereby expected to implement the SDGs into their local contexts to address the challenges associated with reaching sustainable development that considers environmental, social, and economic parameters (Choi et al. 2016). This country-level operation of SDGs must encourage a systematic implementation in which different stakeholders, such as local authorities, government agencies, private sectors, and civil society, take corresponding action (Stafford-Smith et al. 2017). However, the operation of SDGs at national levels also implies the task of translating the goals into policies and, from these, through different levels of planning on both strategic (plans and programs) and project levels, the latter of which entails concrete and specific integration in on-the-ground contexts.

The importance of SDGs within planning implies the relevance of environmental assessments (EAs) whose primary purpose is to strengthen the sustainable commitments of those projects and plans that are implemented. Nevertheless, it has long been implied that the sustainability principles of EA would benefit from a strengthened integrative approach “[…] to align our practices and focus our efforts on […] achieving progress towards sustainable development” (Morrison-Saunders et al. 2014, p. 2).

## Linking SDGs and EA requires broader scoping

Several authors have indicated a potential in merging EA with the ambitions of the SDGs, building upon their common focus on sustainable development (Williams & Dupuy 2017; Matthews et al. 2019; Kørnøv et al. 2020; González et al. 2020). While a majority of literature merely hints at theoretical potential in linking the two concepts, then other studies propose specific mechanisms and methods that connect the SDGs to EA practice (Hacking 2019; Sebestyén et al. 2019). Hacking (2019) argues that in order to operationalize the SDG agenda, it must be translated at the project level and in this way, the goals can serve as a basis for objective-led assessments. Similarly, Nilsson and Persson (2017) claim that the SDGs can be used as a framework of reference to define assessment criteria for EA procedures. Some authors have taken this to the practical level and have used the SDGs as a basis for defining parameters for the assessments (Wulf et al. 2018; Maier et al. 2016; Chandrakumar & McLaren 2018).

Through a more generic approach, some authors imply that integrating SDGs is concerned with more expansive scoping of EA practice. Morrison-Saunders et al. (2020, p. 3) suggest broadening the scope of the EA so that it better reflects the SDGs and state that “Impact Assessment must become more comprehensive and integrated, such that the full suite of SDGs and the relationships between them (including potential tradeoffs) can be considered and debated in a transparent and inclusive way”. This idea of expanding the scope is an argument also reflected by Hacking (2019, p. 6) when suggesting to ‘stretch’ the EIA so that “[…] the scope and ambition of the EIAs can extend well beyond what is typical”. Nevertheless, despite the popularizing dialogue surrounding the coupling of SDGs and EA, Kørnøv et al. (2020) reveal that the literature on practically linking the two concepts is scarce, as it remains a relatively new field still within its exploratory phases. This likewise reflects in literature considering scoping practices when linking the SDGs, as they too are few and far between.

## The critical role of scoping

Scoping within EA is, as defined by Glasson et al. (1999, p. 90), the stage in which one is “[…] determining, from all a project’s possible impacts and from all the alternatives that could be addressed, those that are key, significant ones”. This indicates that the primary objective of scoping is ensuring that potentially significant impacts are considered in further assessments and that insignificant impacts are disregarded. Scoping is widely recognized as a fundamental phase in an effective EIA, having influence on the assessment process and outcome (Sadler 1996; Morgan 1998; Wood et al. 2006; Arts et al. 2012; Zhang et al. 2013; Canter & Ross 2014; Lyhne et al. 2016; Lyhne and Kørnøv 2013). It is argued in literature that ineffective scoping leads to lengthy reports and an incoherent basis for decision-making; as stated by Weston (2000, p. 1998), “[…] if minor issues are not scoped out of the EIA process at an early stage, it will result in a great deal of unnecessary work and wasted resources as well as a potentially verbose and confusing environmental statement”. This suggests that scoping can become too broad, when too many insignificant impacts are considered.

However, the authors of this paper are simultaneously concerned with scoping that risks becoming too narrow, and thereby, may scope relevant environmental parameters out of the further project assessments. As emphasized by Morrison-Saunders et al. (2014, p. 5), there is a need for “[…] a focused scoping process, which commences with the goal of sustainable development”, meaning that while it is crucial to concentrate on relevant impacts, then it is also crucial that scoping considers all assessment parameters that can strengthen a project’s commitment to sustainable transition. This puts emphasis on maintaining a broad understanding of what it means to be a sustainable project, and that this understanding is likewise reflected when scoping for relevant impacts.

## Research focus

This paper focuses on the context of Danish EIA procedures and determining whether an incorporation of the SDGs can improve traditional scoping practices. It views scoping as a means for highlighting relevant SDGs, similar to how scoping is being used to detect relevant assessment parameters in current practice. The paper does this by firstly determining SDG and EIA parameter overlap and thereafter using the SDGs to reveal potential gaps in current scoping procedures. The guiding research question is: *How does EIA practice reflect the SDGs, and what is the potential for applying SDGs to further develop and expand scoping practices?* The findings inform future practice for SDG scoping within EIA, which “[…] implies that SDGs are used in the process of determining the major issues and impacts in the decision-making process. Here, SDGs and targets will be a way to assess relevance of alternatives, impact categories, etc.” (Kørnøv et al. 2020).

The paper is based on an analysis of current EIA procedures as practiced by Danish consultancies. The Danish setting is a unique case when exploring SDGs, as Denmark is a high-income country already performing well in the achievement of the SDGs (Sachs et al. 2020). The results must therefore be viewed within this context.

The article is structured as follows: The next section provides an overview of the methodology employed. This is followed by the results of the analysis, and a discussion of how these results supplement current understandings, regarding both the expansion of EIA scoping to take on a more integrated approach to sustainability, and what this implies for the transition towards sustainable development.

# Methodology

The research has been executed in three steps: i) identifying applicable SDG targets and keywords from selected EIA reports, ii) analyzing to what extent current EIA scoping reflects the SDG targets, and iii) using these findings to explore further development of the existing scoping framework.

## Identifying project-applicable SDG targets and keywords from EIA reports

### **Selection of applicable project-level SDG targets**

The SDG target level is considered most relevant to bring into EIA practice, as they break the 17 goals down into more practical components and detail the specific aims entailed within the 17 goals. The indicators supplement useful data needs for determining the fulfillment of targets. Just as with the goals themselves, the targets are still more strategically applicable than practical and were not written with the project level in mind. In contrast to the strategic level of planning, the project level includes only aspects of planning with physical implications. For this reason, the 169 targets were reviewed in order to determine the ones applicable to project-level implementation, and thus, relevant for the EIA procedure. This exercise entailed eliminating those targets not applicable to the project level given the following elimination criteria:

1. Targets requiring strategic action within national systems were eliminated. This referred to those targets implying that strategic resources, such as plans and policies, must be implemented for fulfillment of the goals. This included, but was not limited to, targets defined by a letter (i.e. targets X.a, X.b, etc.).
2. Targets not applicable to a Danish context were eliminated. This included geographic limitations, such as targets entailing mountain ecosystems, targets aimed at developing countries, as well as health-related targets aiming to reduce mortality of various population groups to a level already reached in Denmark.
3. Targets referring to company operations without physical implications were eliminated.

The selection was first performed by the first author of this article in cooperation with highly experienced EIA consultants based upon the internal EIA procedure and an understanding of the EIA as gained through the selected EIA reports. However, this also means that those targets considered relevant are influenced by how the criteria is interpreted and are not conclusive. Instead, these targets should be viewed as a starting point for exploring EA and SDG overlap and as an initial ground for identifying those targets not immediately relating to the strategic level. Adapting some of the eliminated targets to make them project-applicable is outside of the scope of this paper. The elimination process is demonstrated in Annex 1, which shows the elimination criteria applied to the eliminated target as well as the remaining project-level targets.

As a result of the exercise, 41 targets were considered applicable to the project level. The 41 targets were reduced down to keywords of topics that concern the SDG target, taken directly from the SDG target description. These keywords can be seen in Annex 2. It is these 41 targets that were considered in the following exercises that link SDGs to EIA parameters.

The exercise identified all targets from SDGs 5, 10, 16 and 17 to be either more strategic or not applicable within a Danish context, thereby not considering them applicable to Danish EIA practice. For instance, target 10.3 “Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard*”* is far more concerned with the role of legislation, which may be more appropriate for strategic planning than project level. It should be noted that this is a result of the interpretation that was made for this case and should not indicate that these goals cannot be applied to the EIA under different interpretations or contexts. These four SDGs were not incorporated in the proceeding exercises and are not considered for expanding EIA scoping practice. Therefore, when considering applicable SDG target links in the remainder of this research, it was based on the remaining thirteen SDGs and 41 underlying targets selected through the exercise.

### **Selection of EIA reports**

Understanding how the current Danish EIA practice corresponds to the applicable SDG targets required consulting an EIA procedure. In this case, the point of departure has been a procedure from a large consultancy company, producing a significant number of EIA reports in Denmark. The assessment parameters that are considered part of the current scoping procedure takes point of departure in the parameters as defined by EIA legislation (Act no 973 2020). The assessment parameters are population & human health, biodiversity, soil, water, air & climate, material assets, cultural heritage, landscape and resource efficiency.

The empirical data for this process is based on the investigation of five EIA reports, which inform the content of the environmental parameters considered within current EIA practice. EIA reports, rather than scoping reports, were consulted in order to understand the types of assessments included in each assessment parameter. These reports were selected to cover a diverse array of different project types, in order to gain a broad perspective of how the assessment procedure is conducted, as well as what factors are considered within the EIA assessment parameters. The EIA reports have been completed and the projects are therefore either in the implementation phase or have already been implemented. In order to ensure recency of the EIA practice, the projects are published no later than 2015. It should be noted that the five reports cannot be assumed to be all encompassing of current EIA procedure and that the corresponding SDG links could likely differ if referring to other EIA reports and to a larger selection. Therefore, additional research is required to get a more comprehensive and accurate picture of SDG links. The five reports used in this research are nevertheless assumed to display a comprehensive enough array of content and assessment parameters to analyze an initial SDG linking. The projects are as follows:

* Skagen Havn: an expansion of Skagen’s harbor in order to create more space for industry.
* Firskovvej: a road development project for the extension of a preexisting road.
* Vestforbrænding: the development of a new waste management plan for incineration.
* Tuborg Syd: a housing development project.
* Lindø Port of Odense: an expansion of a port for increased capacity for surface water treatment.

### **Analyzing the EIA reports for keywords**

Considering the targets that were deemed applicable to EIA project-level assessments, the EIA reports were analyzed in order to identify which targets relate to the assessment parameters described in each report. Initially, keywords relating to the overall parameters (population & human health, biodiversity, etc.) discussed in each report were identified. This was done by creating a comprehensive list of the environmental topics concerned within each assessment parameter in the individual EIA report. This result is presented in Table 1, which shows the keywords for each report and the corresponding assessment parameters. The reports were in Danish and therefore, the coupling was initially performed in this language and later translated.



Table 1: EIA reports analyzed and corresponding keywords

## Analyzing current overlap: Direct and indirect links between environmental parameters and SDG targets

After the keywords for each individual EIA report were identified, they were grouped according to assessment parameters listed in the EIA legislation (Act no 973 2020). A comprehensive list of the keywords corresponding to assessment parameters can be found in 6.2 Annex 3. The keywords provide an overview of the topics considered within the assessment parameters. It is these keywords that were linked to keywords from the 41 SDG targets.

The links were made by first identifying direct links between the SDG targets and the keywords identified in the EIA reports. The criteria for a direct link was that a keyword from an EIA parameter matched a keyword identified for an SDG target. For example, this exercise would link target 3.9 “by 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination” directly to population & human health based on the keyword “pollution” which appears relevant for both the target and the assessment parameter. 51 direct links were identified between assessment parameters and SDG targets.

Due to the fact that the keywords for assessment parameters are based on a limited number of reports, and are subjective with varying interpretations, there are links between SDGs and EIA reports that cannot be made by directly linking keywords. These links are what in this research were considered an indirect link, in which a description of the SDG target does not precisely match a keyword for the assessment parameter but resembles other keywords. This is primarily the case when an SDG-target keyword is broad and implies underlying activities or topics that link directly to an assessment parameter keyword, just as the “infrastructure” in target 9.1 implies a link to keywords “roads” and “traffic” considered under population & human health. The opposite also implies, in which an SDG-target keyword is too narrow and is encapsulated under a broader assessment parameter keyword, just as the air & climate keyword “emissions” implies “clean technologies” under target 9.4. In this way, the indirect links also needed to account for the wider context of these broad and narrow keywords so that unrelated links were not established. For instance, the same target 9.4 keyword “clean technologies” was not linked to soil, in which the keyword “emissions” is also present, because the “clean technologies” referred to in the SDG target are CO2 emissions (according to the indicator). CO2 emissions are in this case determined to link more directly to air & climate than to soil.

The method for establishing links draws upon interpretation from different perspectives. Recognizing that there exist “multiple interpretations of the text” (Hawkings 2018, p. 9), interpreting links between SDGs and EIA parameters was performed by a representative from research and a representative from practice, and thereby representing different stakeholders and experiences. Through the linking practice, there were identified 7 indirect links between assessment parameters and SDG targets.

## Developing future scoping framework: Unexplored links between environmental parameters and SDG targets

After conducting both direct and indirect links to assessment parameters of Danish EIA practice, there were 11 applicable SDG targets that were not linked to corresponding assessment parameters and are therefore not determined to be preexisting assessments in EIA practice. Here focus was on mapping the unexplored links between SDG targets and the EIA practice in order to close gaps in current scoping practice and thereby integrate a more comprehensive understanding of sustainability. Since these SDG targets are ones determined to have neither direct nor indirect links to the existing EIA practice, these links were made based on a qualitative assessment of whether the SDG target, already deemed relevant to project-level assessments, could be relevant for the parameters.

# Results: Findings from SDG linking

The results first present the direct and indirect links between SDG targets and the assessment parameter keywords from the EIA reports. This is to provide insight into the current overlap between the SDGs and EIA practice. The second section of the results focuses on the unexplored links and how these can be used to expand EIA scoping practice.

## Current overlap: Direct and indirect links between Danish EIA practice and SDG

The findings from mapping the interrelations between project-applicable SDG targets and the assessment parameters relevant in EIA scoping is firstly related to the practice as defined by the EIA reports. Table 2 illustrates the findings when linking SDG targets to the keywords from the analyzed EIA reports. It reveals that 30 of the applicable 41 SDG targets are linked to corresponding assessment parameters, of which 27 can be linked directly to the EIA parameters and 6 can be linked indirectly (3 targets have both direct and indirect links). There is a total of 51 direct links and 7 indirect links. The SDG targets have been grouped according to a categorization presented by Rockström and Sukhdev (Stockholm Resilience Centre 2016), that breaks the SDGs into economic (SDGs 8, 9, 10, and 12), societal (SDGs 1, 2, 3, 4, 5, 7, 11, and 16), and biospheric (SDGs 6, 13, 14, and 15) paradigms.



Table 2: Linking exercise between SDG targets and assessment parameters. Direct links are indicated in orange, indirect links are indicated in blue, and the targets that cannot be linked are indicated in grey.

According to the linking exercise, the keywords from the EIA reports can link to ten of the SDGs, namely SDGs 3, 6, 7, 8, 9, 11, 12, 13, 14, and 15. These applicable SDGs encapsulate economic, social and biospheric SDGs, implying that current EIA practice covers the three facets of sustainability. It is also possible to link SDG targets to all assessment parameters; however, it is not all assessment parameters that consider all sustainability facets (economic, social, and biospheric). The links according to SDGs and SDG targets are represented in Table 3.



Table 3: Current overlap between SDG targets and EIA practice. The grey columns indicate unexplored SDGs

## Unexplored links between SDG targets and Danish EIA practice

The targets that can neither be linked directly nor indirectly are indicated in grey in Table 2. These targets are what this research considers to be unexplored targets, as they remain unexplored within current EIA practice. As can be seen in Table 3, there is a total of 11 unexplored targets that fall under SDG 1, SDG 2, SDG 4, SDG 6, SDG 7, SDG 11 and SDG 12. These are targets linked in dark green in Table 4 below and they stem from economic, social and biospheric SDGs, meaning there is room for expanding scoping practice in all paradigms.

As such, this research proposes that these 11 unexplored targets can be used as a guideline to propose new parameters that have a more inclusive approach to engaging SDGs, so that previously unexplored assessment parameters are also reflected in EIA practice and included when scoping for relevant impacts. A hypothesized proposal for linking supplementary parameters, including the 11 unexplored targets, to the EIA procedure is shown in Table 4. A total of 15 new links are made overall, 12 of which are formed based on linking 11 unexplored targets (SDG 1.2, 1.5, 2.1, 2.3, 4.7, 6.2, 7.1, 7.2, 11.1, 11.5 and 12.8) and 3 of which link previously linked targets (SDG 6.1, 11.4 and 13.1) that have facets relevant to parameters that are not currently considered in EIA practice. The targets that have been previously explored but reveal unexplored links to new assessment parameters are indicated in light green in Table 4.



Table 4: Potential links between unexplored targets and EIA parameters. 11 unexplored target links are indicated in dark green and 3 previously explored targets with links to new assessment parameters are indicated in light green.

As the table illustrates, these unexplored SDG targets can primarily be linked to population & human health, but can also be linked to air & climate, landscape, and resource efficiency. An example of breaking these targets into EIA parameter topics can be seen in Table 5 below.



Table 5: New proposed overlap between unexplored targets and EIA parameters expressed as parameter topics. The grey rows indicate a new parameter and its corresponding SDG target. SDGs 1, 2, and 4 are previously unexplored SDGs. The new targets under each parameter heading are in bold and the previously explored targets with new links are italicized.

These additional topics are as follows: economic conditions, vulnerability to climate-related occurrences, impacted by catastrophe, access to energy, access to adequate sanitation and hygiene facilities, access to safe drinking water, access to nutritious and adequate food, access to safe housing, increased knowledge about sustainable development, decreased emissions with renewable energies, natural-heritage, and increased use of renewable energy. By linking the SDG targets with additional parameters, they can be used to expand the EIA scoping framework and thereby allow for a more detailed inclusion of assessments in the EIA procedure.

As can also be seen in Table 4, a majority of these unexplored targets stem from SDGs that are considered more socially inclined through the Rockström and Sukhdev model (Stockholm Resilience Centre 2016). This implies a particular gap between the consideration of social aspects and current EIA practice, meaning it is the assessment of these social aspects that presents potential for improving the quality of EIA scoping practice, for which adopting the additional assessment parameters proposed in Table 5 would be a hypothesized way for strengthening social inclusion. This broader inclusion of new EIA assessment parameters compliments authors such as Hresc et al. (2018), that suggest that the SDGs can provide a normative list for the EIA to include social issues as poverty, good health and wellbeing, gender equality, sustainable cities and communities, and reduced inequalities. In addition, it compliments Hacking’s (2019) proposal to use SDGs to ‘stretch’ the EIA procedure, so as to extend its scope to be more inclusive of all sustainability themes, beyond the bio-physical environment.

Furthermore, linking these unexplored targets engages 3 unexplored SDGs that have been deemed relevant to project-level assessments but have not been previously linked to current practice. These unexplored SDGs are SDGs 1, 2, and 4, in which no prior target links can be made neither directly nor indirectly, despite their determined relevance to project development. According to the Rockström and Sukhdev model (Stockholm Resilience Centre 2016), SDGs 1, 2 and 4 are all socially oriented, meaning that linking the unexplored targets would not only engage in supplementary assessment parameters to strengthen scoping, it would also expand the repertoire of relevant SDGs from 10 to 13, and thus, draw greater parallels with global goals for sustainable development

# Discussion: SDGs to enhance EIA scoping

With point of departure in the findings, this discussion first delves into how the findings are contextually dependent and aligns with ongoing literary discussions. Afterwards, it explores how adopting a more comprehensive approach compliments a larger system in transitioning towards sustainable development and how this can be perceived as a part of a wider societal shift.

## SDGs to fill contextually-bound knowledge gaps in EIA

This paper has identified gaps in EIA scoping practice and proposed the SDGs as means for leveraging social components of EIA. However, the ‘lever’ is not autonomous from the context within which it is embedded. The five EIA reports that have been consulted provide a small window into scoping practices and draw conclusions regarding, on the smallest scale, an individual consultancy’s EIA procedure. It is a reflection of the assessments of particular project types influenced by biophysical, cultural and legislative contexts.

On a bigger scale, the gaps in assessment parameters reflect a common theme in EA literature as well as the academic focus for Danish EIA practice. Within Denmark, academia has called for a greater inclusion of social considerations in EIA practice. In a national evaluation of EIA, Kørnøv and colleagues found that EIA practices do not reflect the broad concept of environment, and that social and socio-economic conditions often are omitted despite their relevance (Kørnøv et al. 2005). Later, Larsen et al. (2015) analyzed the environmental assessment statements of three Danish projects and found that the full social impact of projects was not captured, and as a result, proper mitigation measures were not proposed. Authors have also suggested that the shortcomings in the assessment of social aspects can oftentimes enable social conflicts. Cashmore et al. (2019) state that EAs serve as a framework to limit and prevent conflicts in planning. Larsen et al. (2018) investigate the conflicts generated by the social impacts of renewable energy projects in Denmark. Thus, this research confirms suspicions in literature that strengthening the social parameters of EIA has not yet concretized in practice and there remains a gap within current scoping practices.

However, this is merely a reflection of the needs of Danish EIA practice. The lever for social considerations as proposed by this research cannot be projected beyond the context of the EIA practice to which it pertains. Literature also suggests that weaknesses in scoping may be interpreted differently depending on the project and national contexts. For instance, Shah (2019) suggests that an EIA of an international airport in Nepal lacks an in-depth study of biophysical parameters, such as wildlife, ecosystem services, and aircraft noise impact on wildlife. Another study of EIAs in Sri Lanka and New Zealand showed a weakness in addressing disaster risk (Hapuarachchi et al. 2016). In addition, a report on using the SDGs to strengthen environmental consideration of EA in Asia and the Pacific argues for heightened attention to SDGs 12, 14, and 15, which are economic and environmental goals, according to the Rockström and Sukhdev model (UNEP & ADB 2019) (Stockholm Resilience Center 2016). Understanding whether the overlap of SDGs and EIA parameters in various contexts may reveal different gaps and enhance scoping in alternative ways than explored in this paper requires further research.

Therefore, while this paper’s findings apply only to a geographically- and culturally-bound EIA practice, then the methodological approach in using the SDGs to obtain more comprehensive scoping practices could apply across EIA procedures. For this reason, this SDG linking exercise may be used to detect gaps in EIA scoping, whether they are biospheric, economic or social and use politically-derived sustainability goals to define what each entail.

## Inclusion of SDGs requires a multilevel perspective

A more comprehensive scoping practice is also a part of establishing a more integrated foundation upon which to conduct EIAs. Doing so not only provides a more convenient point of departure for more inclusive scoping practices, it is also a strategy for strengthening the commitment to sustainable project development and for redefining what sustainability entails within the project industry. However, it is worth recognizing that the transition towards sustainable development and improvement of the EIA scoping practice to include, for instance, social paradigms is part of a larger system that connects global visions to on-the-ground practice. Kemp et al. (2007) identify sustainable development as operating within a multi-level system, in which establishing long-term visions and agendas is just as crucial as experimenting with innovation in practice.

If assuming this multi-level perspective, the SDGs have been created within the highest political level as long-term visions for future development. They have since then, been nationally interpreted to adapt into specific country contexts and have thus been contributing factors to the development of corresponding agendas and networks. Thereby, if considering the EIA and project development as an opportunity to experiment with sustainable development in practice, then the EIA procedure concerns itself mainly with the final level that is closest to on-the-ground implementation. Just as they have been integrated into higher, strategic levels, the SDGs must also now be expected to lead innovative experimentation in this final level.

This research proposes doing so by utilizing the SDGs within EIA practice, which is directly in touch with the projects being implemented in practical operations. It contributes to this multi-level system by solidifying the role of the SDGs within the operational level while crucially strengthening the role of social aspects within this mobilization. With this, the SDGs can bring long-term political visions into EIA practice, and use the sustainable development, as defined in these political spheres, to improve the understanding that is also exercised on the ground.

However, it should also be recognized that merely strengthening the social aspect of the EIA does not necessarily ensure strengthening the commitment to sustainable development. This research proposes a supplemental scoping framework, yet it remains to be tested in EIA practice. Testing the framework should not be without continuous reflection upon the effects of incorporating SDGs and whether their function within project development does strengthen sustainable development in practice as predicted. Likewise, strengthening the consideration of social aspects through SDGs does not automatically result in a better use of SDGs within EIA. The incorporation of the SDGs in EA practice is highly dependent on the prioritization of SDGs at higher levels. For instance, a weak priority at the authority level may significantly reduce the benefit of using SDGs to leverage social aspects in EIA practice. In addition, attention to the particular function of the SDGs within EA should be a priority for future experimentation in order to maintain a focus on sustainable development. Thus, a continuous collaboration between the levels and monitoring of progress is crucial, so that the sustainable efforts advocated in EIA practice are synonymous with long-term global visions.

# Conclusion

The synergy between the SDGs and EA becomes evident when considering their common commitment to strengthening sustainable development, which brings with it an obligation to finding methodologies to pursue this synergy. This research drafts an initial linking of SDG targets to EIA assessment parameters using five EIA reports. It demonstrates how the current EIA practice aligns with SDG targets and gives insight into what assessment parameters are relevant in a Danish context for determining how a project contributes to fulfilling political goals.

In this way, the research is a case study based on Danish consultancy experience with EIA practice and is therefore only representative of this individual case. In other words, further studies are needed to explore the potential of SDGs within EIA scoping in other contexts. The repertoire of relevant SDGs in EIA practice may be different if operating within a different country context, just as the scope of assessment parameters may differ as well. Further studies will provide a stronger basis for developing ways to promote comprehensive EIA scoping and thereby strengthen the potential of EIA to guide decision-makers on SDGs. Additionally, determining overlaps between SDG targets and EIA practice is based on a qualitative assessment, and should not be viewed as definitively conclusive. Rather, the study suggests that current EIA practice and the assessments included do parallel social, economic, and biospheric facets outlined by the SDG targets and confirms that the hypothesized potential in linking SDGs to the EIA is a feasible strategy for developing scoping practice.

Most importantly, this research demonstrates that while a current overlap exists, measuring EIA practice against the SDGs reveals a gap in the comprehensiveness of the assessment parameters considered in scoping. In the case of this research, the linking exercise reveals a lacking focus on social parameters in Danish EIA practice. Therefore, bringing the SDGs into the EIA procedure is not only for measuring the achievement of political targets on a project level. The function of the SDGs can also be a matter of improving the scope and quality of the EIA by supplementing scoping with additional parameters. In this way, this research also supports what prior authors have predicted, namely that there is unexplored potential for making EIA practice more comprehensive if utilizing the SDGs as a guideline for assessment parameters.

Thus, the current overlap between the EIA and SDGs suggests that the EIA can act as a methodology for measuring how project development contributes to achieving politically-determined sustainability goals. However, simultaneously, the gaps in practice reveal the potential in using the SDGs to shape and redefine what sustainable development entails when practically executing these political goals in project development.

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# Annexes

## ANNEX 1: Determining project-level SDG targets



## ANNEX 2: SDG target keywords



## ANNEX 3: Assessment parameters and keywords



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