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## Integrating social consequences in EIA of renewable energy projects

*11 recommendations*

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VVM<sup>plus</sup>



**Integrating social consequences in EIA  
of renewable energy projects**

**11 RECOMMENDATIONS**



# Introduction

This guide presents key learnings and conclusions from the Danish research project VVMplus (see page 15). The project explored the importance of social consequences with regard to public perceptions and views on the establishment of new renewable energy (RE) facilities.

VVMplus specifically focused on how social impacts are typically covered and discussed during the Environmental Impact Assessments (EIAs), which are normally a mandatory step in the approval of new RE facilities.

Social consequences can be seen as an underexplored legal requirement in Danish EIA practice. The EU EIA Directive (2011/92/EU; 2014/52/EU) requires an as-

essment of “population”, “human health”, “material assets”, and “well-being”, as mentioned in the preamble; however, the directive barely includes any description of which social aspects are to be investigated and to what extent.

The details of social impacts to be included in EIAs to ensure compliance with the legislation are thus unclear. Conversely, there is no foundation for arguing that including social consequences constitutes over-implementation of the directive. The current situation is that the individual authority has a legal basis for considering assessment of specific aspects of social impact necessary for compliance.



## Developing EIA practice

In the longer run, court rulings in Denmark and EU will provide an understanding of the “social” parameters in the directive. But this will take years if not decades, and the rulings will most likely never provide an exhaustive description of how social aspects are to be treated in EIA practice.

VVMplus demonstrated, in a Danish context, a correlation between the high and increasing number of conflicts over renewable energy projects, such as wind power developments, and the way social consequences are investigated in the course of EIAs. In short, while the EIA documents are core in the interactions with citizens in Denmark around new RE facilities, these documents do not include the social consequences which are of main concern to the citizens.

The VVMplus project showed that improved assessment and consideration of social consequences in EIA documents can enhance the basis for dialogue, which may help reduce conflict. There is a pronounced need for guidance as well as sharing of experiences and competences concerning the integration of social consequences in EIA.

Based on the first experiences in Danish practice, this document aims to provide answers to some of the key questions and outline directions for practices that may address some of the identified problems with conflicts related to social consequences.

# Using the recommendations

The following pages provide a set of key recommendations designed for municipalities, consultants, and developers, who possess good knowledge of the Danish EIA legislation and have experience from practice.

The reader is referred to official EIA guidance for explanation about the rules and key concepts. Each recommendation includes references to background documents for a more detailed overview of the underlying research.

## Starting with the simplest options

Whilst we sincerely believe that all our recommendations will help improve dialogue and reduce conflict, some are easier to implement than others, and resources constraints may impose limits. However, the simplest options should be feasible in most circumstances.



This stamp identifies recommendations which are fairly easy to implement within limited resources.



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*Note: The numbering of recommendations does not indicate prioritization.*



# 1

## Include social impacts in the scope

A remarkable fact that emerged from the VVMplus study: The EIA reports for RE projects generally do not cover the impacts that are of most concern for local citizens. This was identified as one of the root causes of conflict, highlighted in opposition articulated throughout the public hearings and in frustration revealed in the interviews.

These reactions were related to feelings of uncertainty and neglect arising from the fact that the citizens' worries were neither being addressed nor assessed. The VVMplus results show that citizens are genuinely concerned about a wider range of social impacts and a higher number of specific social impacts compared to the few, broad categories assessed in the reports.

We recommend broadening the scope of the EIAs when it comes to social impacts. The study did not aim to identify social impacts of general concern for inclusion in all EIAs, however it found a range of social aspects that may be seen as examples (see the table).

Note: Expanding the scope of the EIAs should not necessarily lead to longer reports covering more impacts. In each case, the point of departure should be a specific scoping and early dialogue with the locals. This will enable identification of those social and environmental issues that are significant for the individual project and its assessment.

Aspect	Potential areas of impact
Way of life	Recreational interests, use of outdoors spaces, peace and quiet, vulnerable groups
Culture	Impacts on burial mounds that should be preserved for future generations
Community	Local economy, local image, economic support, depopulation and settlement
Political system	Landowners' rights, relation between the project owner and the local community
Environment	Noise, visual effects, drinking water, smell
Health and well-being	Stress, sleep, diabetes
Personal and property rights	Property value, land management rights, income
Fears and hopes	Traffic safety, economic future, risk of additional industrial facilities

### Additional reading

VVMplus Delrapport 2 – Sammenhænge mellem konflikter og sociale konsekvenser. Link: <http://bit.ly/2yLBLLf>  
 International Association for Impact Assessment's Guidance for assessing and managing the social impacts of projects. Link: <http://bit.ly/2CtejVE>.



## Conduct a social baseline study

Contradictions between what locals perceive as significant social consequences related to RE projects and those addressed in EIAs in practice tend to cause local opposition.

To bridge the gap between perceived social consequences and the scope of the EIA, our findings point to a need for EIAs to be based on a more thorough understanding of the social baseline in the impacted communities and for this to inform the scope and assessments.

Basically, this is about getting to know the local communities that might be affected by the RE project under assessment.

The problem also touches on the assessment of significance, since citizens often experience that the EIA reports and processes lack a proper understanding of the specific challenges and values in the local communities which might be affected.

We recommend conducting a social baseline study during the initial phases of - or prior to - the EIA. The process requires an early and ongoing stakeholder analysis, which is continually revised as the project evolves.

We further advocate the use of qualitative methods such as conversations or workshops involving local citizens.

Working with locals can provide a more detailed insight into the situation of a local community than statistical data and has also been found to shed light on opportunities and barriers for implementing RE projects.

Working with locals can further lead to relevant reflections about the roles of the different stakeholders involved in a specific project. Also, locals can contribute information relevant for political decision-making.

### Example: Using a social capital framework

In a pilot test conducted as a part of the VVMplus project, we experimented with an alternative approach to developing a social baseline study.

To obtain insights into the local community and generate a community profile, we based our con-

versations with local citizens on a social capital framework. The pilot revealed complex relations in the communities regarding hopes, fears, and personal relationships, which we would not have been able to identify through a purely quantitative approach.

#### Additional reading

VVMplus Delrapport 4 – Afprøvning og evaluering af indsatser og metoder til arbejde med sociale konsekvenser i VVM.  
Link: <http://bit.ly/2CrDvQS>

International Association for Impact Assessment's Guidance for assessing and managing the social impacts of projects. Link: <http://bit.ly/2CtejVE>



# 3

## Include social impacts at planning level

Assessment of social impacts at project level is much needed, but often many decisions have already been made when a project application is submitted. Social aspects should be considered when local strategies for

renewable energy solutions are developed. This allows for a more informed dialogue about how renewable energy initiatives and community interests can be reconciled.

Discussions with planning and EIA professionals in the VVMplus project lead us to recommend assessing and discussing social impacts during the municipal planning phase.

Involving citizens and other stakeholders in decision-making at the strategic level can be challenging, as it involves more or less abstract decisions, often without direct impact on the individual citizen.

Such a dialogue might result in locally supported, overall priorities that can serve as a framework for future development projects. Assessment and discussion of social impacts at planning level is also an opportunity for enhancing the transparency of decision-making.

Thus, on the one hand very important decisions are made at the strategic level where social impacts should be considered, but on the other hand the plans for the facility are not very concrete and can be difficult to assess and relate to.

### Example: Incorporating landscape impact / Denmark

Skive Municipality in Denmark published a new municipal spatial plan in 2016. As part of the process, a strategic environmental assessment was carried out. This assessment focused, among other things, on the designation of areas for future wind turbine projects including potential impacts on the

population and human health. As a result of this process, instructions were made among other things determining that wind turbines cannot be placed in designated landscape areas and near the coast line, since a concern among locals is the impact on landscape.

### Example: PAC reports /UK

In the UK, developers have to provide PAC reports (Pre-application Consultation Reports) as part of the planning application, in which they state how they have consulted people, and to what extent they

have addressed and responded to people's concerns. In theory, the approval authority can reject projects based on poorly implemented consultation and deficient PAC-reports.



# 4

## Focus on local benefits

The VVMplus project found that the EIA reports and processes are predominantly focused on negative local impacts. The distribution of benefits and disadvantages is very important for local citizens who are concerned when local communities or individuals are perceived to carry the burdens, while others reap the benefits.

Our findings indicate that local citizens have the capacity to suggest and discuss possible local benefits.

We recommend working proactively with positive impacts or benefits for the local communities. This should include enhancing existing positive impacts of the projects as well as actively creating local benefits. The process should involve close collaboration with local communities to include their views.

Positive local impacts, including opportunities offered through the official schemes, should be communicated

Denmark is unique in having mandatory compensation and benefit schemes for local communities hosting renewable energy facilities, e.g. options of co-ownership and compensation for lost property value.

However, it appears that in practice the introduction of local benefits has been rather played down or postponed to later stages of the planning process. This does not do justice to the legitimacy of these instruments.

at an early stage. Early and upfront communication can potentially earn more support among local communities.

Note: The compensation and benefits schemes, currently enshrined in Danish legislation, are undergoing changes and are facing an uncertain future. Regardless of the characteristics of the future system, this may allow for realignment and improvement of benefit schemes and community gains.

### Example: Discussing local benefits

In Esbjerg Municipality, a project with 19 wind turbines was initiated in 2015. As part of the planning and EIA process, a survey was carried out in 2016 with the purpose of uncovering the concerns and wishes of the local citizens regarding the project.

The survey found that many local citizens had concrete ideas for local benefits, such as enhancing local

nature, supporting local sports initiatives, and a new bicycle path.

The project was abandoned in 2017, so the local benefits were not implemented. However, the municipality considers the process of including the citizens' suggestions a positive experience, as it helped create trust and break down the perception of 'us and them'.

### Additional reading

VVMplus Delrapport 4 – Afprøvning og evaluering af indsatser og metoder til arbejde med sociale konsekvenser i VVM, Link: <http://bit.ly/2CrDvQS>

Sociale og økonomiske konsekvenser i VVM: Resultater fra en spørgeundersøgelse til borgere i området omkring vindmølleprojekt ved Lundsmark i Esbjerg Kommune. Link: <http://bit.ly/2yNPQYR>





# 5

## Start with the citizens

**EASY STEP**

The project results show that the citizens view impacts in a holistic way, based on their everyday lives; citizens want to know how the project will affect them and their lives. They are mainly concerned about: 1) Impacts at end-point. As an example, citizens are not as such interested in the level of noise measured in dB, but in what

that level of noise will feel like and how it may impact their health and everyday life. 2) The cumulative impacts. For example, citizens are not interested in separate estimates of dB from different sources, but in the perceived cumulative impact of different noise sources.

We recommend that the assessment of social impacts in the EIA should start with the local citizens and the way they will be affected, rather than focusing on the facility first and working from there. The difference is illustrated in the figure.



“

The biogas plant will affect a number of neighbours due to traffic, noise, smell etc. The area around Grarupvej is already very strained by Månssons gardeners, Bukholt Mink, power lines, motorway etc. When is enough - enough? - **Local citizen**

Assessing the social impacts from a citizen perspective entails emphasizing impacts at the end-point where possible. We also recommend to address cumulative impacts on the local communities. This includes all impacts of the same type, e.g. noise from different sources, and different types of impacts on the same receptor or with the same consequence; e.g. noise and light at night which might have a cumulative impact on sleep patterns and stress.

### Example: Impact on bus companies and passengers

In an EIA of a highway project in Finland, one of the identified impacts was related to bus companies and passengers. The assessment included impacts on the buses through diversions and changes in routes.

This was coupled with data from a questionnaire on how local citizens used the bus routes to allow for an assessment of the specific impact on the passengers and their use of the bus, and thus also on the bus companies.

#### Additional reading

VVMplus Delrapport 2 – Sammenhænge mellem konflikter og sociale konsekvenser. Link: <http://bit.ly/2CF1kA2>  
The European Commission's Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999). Link: <http://bit.ly/2yMLYY1>



## 6

# Acknowledge and reduce uncertainty

Feelings of uncertainty regarding outcomes of plans and potential impacts of RE projects can be a strain on local citizens. A main problem is uncertainties concerning the impacts of the projects until they are completed and the impacts are tangible. Citizens are also concerned about their possibilities of influencing the RE project after construction, e.g. by filing complaints regarding negative impacts.

Uncertainties and related fears are especially problematic in the planning process, as it may take many years

from the moment citizens hear about the project and until the project is completed. In essence, the citizens are taken hostage by the uncertainty imposed by the project plans.

“

It is not really the construction in itself that we oppose, it is rather the uncertainty of how it will influence the community and concern about what we are not being told

- Local citizen

Where possible, we recommend reducing uncertainty during the planning of RE projects. The recommendations in this document can be part of the solution. However, it is impossible to remove all uncertainty, so we need to explore additional measures, such as monitoring and responding to unforeseen negative impacts.

Importantly, such a follow-up system should be communicated as early as possible, along with a clear commitment to a system that local citizens can trust. For example, neighbors can be given a contractual option

to have their property bought if they are unable to live with the impacts in the end. Another option is to include an overview of the regulation of the facility in the operational phase in the EIA report as well as the public's possibilities for influence.

In the public hearing phase, we recommend presenting draft permits which will be given to the facility as a basis for approval. This provides the citizens with a clear overview of the framework under which the facility will be operating, and their possibilities for exerting influence.

## Example: Handling of uncertainties around gas storage

The EIA of a gas storage facility in Lille Thorup, Denmark, described and acknowledged uncertainty in terms of the chemical content of a large subterranean salt dome that was planned to be flushed in order to store more gas.

The uncertainty was handled by monitoring the chemical content during a test period, making the results continuously accessible for the public, and commit to stopping the flushing, if specific thresholds were exceeded.

### Additional reading

VVMplus Delrapport 4 – Afprøvning og evaluering af indsatser og metoder til arbejde med sociale konsekvenser i VVM.

Link: <http://bit.ly/2CrDvQS>

International Association for Impact Assessment's Best Practice Principles for EIA Follow-up. Link: <http://bit.ly/2BATUyF>

The EIA of the gas storage facility at Lille Thorup. Link: <http://bit.ly/2kO8QB5>



# 7

## Describe the whole project

**EASY STEP**

Most EIA reports describe the environment in which the proposed project will be implemented. In another section, the proposed project is described. Traditionally, the EIA is focussed on the construction and operational phases of the project under assessment.

However, when estimating the project's impact on the citizens and the local community, our findings suggest that it is beneficial to describe the project in a more holistic way, taking a cradle-to-cradle approach.

For instance, citizens feel left with uncertainty about what happens when wind turbines are to be taken down after many years of operation, or when the biogas plant is to be decommissioned.

Describing the full story of the project including what will happen at the end of the project's lifetime may reveal additional options for constructive dialogue with the local community.

We recommend describing the whole story of a project by digging deeper and describing specific local conditions before and after the project.

A dialogue could be established concerning what happens when the facility has served its time and how the process of decommissioning will be handled.

As part of this, we suggest discussing guidelines for future decommissioning and addressing this in the EIA,

so that there is a common level of knowledge and information about the process, and so that all parties can rest assured that technical facilities will not be left to fall apart as a public eyesore or environmental hazard.

This work might also include conditions for how the decommissioning should be handled, as prescribed in a permit.



### Additional reading

VVMplus Delrapport 2 – Sammenhænge mellem konflikter og sociale konsekvenser (2016). Link: <http://bit.ly/2CF1kA2>



## Create transparency on benefits and disadvantages

The VVMplus study indicates that planning processes for renewable energy projects tend to lack sufficient transparency regarding the distribution of benefits and undesired impacts.

This seems to contribute to dividing local communities. Lack of transparency gives rise to rumors about who gains from the project, which again arouses suspicion of how this affects their attitudes and actions.

Lack of transparency in the process may impact the social capital and personal relations in local communities. The results of VVMplus also show that the responsibility of securing transparency in these processes in general can be messy. There are often some built-in conditions which makes the process non-transparent.

For example, due to property market mechanisms, the developer often has the first contact to citizens when

negotiating personally and discreetly with specific local landowners about prices and the exact placement of wind turbines.

Thus, opening the process towards the wider local community is complicated. There is a general need to develop ways to establish an arena where benefits and undesired impacts of the project are openly discussed and acted upon from the very beginning.

“

We noticed that those who support the project are also the ones who stand to gain from it...Our dear neighbors up here, they were for the project until they found out that they would not get very much because it wasn't their gravel road, then they were also against it.

- Local citizen

### Example: Community foundations leverage wind energy

Integrating local community foundations in the ownership model of the project is a good way to create equitably distributed positive local impacts and improve local support to the project.

Local community foundations may support local development by reinvesting the income in projects for job creation, improvement of infrastructure, enhancement of cultural activities etc. An example of such integration can be found in a wind farm project in Trolldhede.

The project, which consists of 6 wind turbines, was initiated by two local farmers. The wind turbine ownership is divided as follows: 1 by each of the two farmers; 2 by a project developer; 1 by a local cooperative (with 94 shareholders); and the last one by a local foundation (47%), by one of the farmers (43%) and by neighbors (10%).

The foundation provides funds to promote clean energy, local environment, and cultural activities.

#### Additional reading

VVMplus Delrapport 2 – Sammenhænge mellem konflikter og sociale konsekvenser. Link: <http://bit.ly/2CF1kA2>



## Strengthen public participation

The project revealed that a perceived low level of public participation often decouples the local community and citizens from the planning process. In particular, the study of conflicts showed that although the root conflicts are about social impacts, these are supplemented by other, equally prominent conflicts about the process.

This part of the conflicts stems from perceptions among the local citizens that there is a lack of responsiveness,

openness, and transparency in the process. In the investigated cases, citizens as well as planners expressed firm support of the ambition to strengthen public participation in RE projects.

The cases also showed a potential for incorporating citizens' wishes and hopes for their future communities in long-term sustainable planning.

From a planner's perspective, supporting participatory processes may involve specific actions, such as ensuring clear communication, giving legal support to citizens, providing direct access to dialogue with the planner, and prioritizing enough time in planning processes for citizens to engage. In addition, public participation can be supported by setting a higher

standard for citizen involvement in planning processes. For example, this can be done by creating arenas where local citizens are not only informed about planning processes, but also have the chance to actively engage in the local development or co-create opportunities for local ownership.

### Example: Involving the community in energy visions

Since the 1990s, the Danish island of Samsø has worked towards 100 % reliance on renewable energy. Today, 11 land-based wind turbines cover 100% of the island's electricity consumption, and 70% of its heating is also covered by RE. Approximately 90% of the island's wind turbines are owned by the locals.

Right from the start, the project team has spent significant resources on providing information, having meetings with locals, and establishing local

working groups and renewable energy ambassadors. Via this approach, they succeeded in establishing local ownership and positive attitudes towards the island's many RE projects. The island's current ambition is to become 100% fossil-free by 2030.

The experiences from Samsø underline the need to establish strong and long-lasting relations with the local communities in order to achieve significant growth in renewable energy production.

#### Additional reading

VVMplus Delrapport 4 – Afprøvning og evaluering af indsatser og metoder til arbejde med sociale konsekvenser i VVM. Link: <http://bit.ly/2CrqvQS>.

EIAplus Dialogue toolkit for EIA and renewable energy. Link: <http://bit.ly/2Beu6ey>.



# 10

## Develop a joint communication plan

One step to create more transparency and strengthen public participation is to prepare a communication or participation plan together with the affected community. This will bring public participation beyond the formal requirements and towards a true involvement and empowerment, increasing process ownership among the local people.

Obviously, such participatory planning is only feasible if those in charge of the process are willing and ready to hand over influence to the community.

The process of co-creating a communication plan together with local citizens will also most likely help identify new interests during the process.

In addition, the joint communication plan would be of help in developing an early and ongoing stakeholder analysis. A firm understanding of the stakeholders may provide a better basis for identifying social impacts and can also be of help in other efforts to increase public participation.

Proposing a joint communication or participation plan is an invitation to citizens to be part of deciding when and how to inform about and discuss specific aspects of the renewable energy project development.

Among other things, this may include settling on the need for information and the appropriate timing of

information provided to the public, as well as deciding on the best methods for participation at different stages of the process.

Thus, the communication plan is not formulated by planners and/or developers alone, but ideally also represents the ideas and wishes from the local community.



### Additional reading

EIAplus Dialogue Toolkit for EIA and renewable energy. Link: <http://bit.ly/2Beu6ey>.

ForskEl and AAU guidance on involving citizens in designing public participation processes. Link: <http://bit.ly/29kVnfv>



# 11

## Improve the non-technical summary

**EASY STEP**

Our results show that there is a discrepancy between the concerns of the citizens and the content of the EIAs.

This is not only due to the lack of consideration of social impacts in EIA, but also founded in the ways information is communicated within EIA statements and reports.

Citizens rarely have the time and competencies to work through several hundred pages of technical language in order to identify issues that are important to them.

The non-technical summaries are of special importance in citizen communication as they are often the first part of the EIA documents consulted by citizens.

A good non-technical summary should highlight the main features of a project in a way that is understandable and meaningful to non-specialists, clearly presenting basic and significant details. To achieve this, our results indicate that several aspects should be enhanced.

Firstly, we recommend focusing on the language and format of the non-technical summary, to ensure they are truly non-technical and easily accessible to the public.

Secondly, we recommend going beyond basic descriptions of a project and its impacts and focus on how the

social impacts are likely to affect citizens and neighbors on an individual basis.

Focussing on tangible social implications of RE projects in the non-technical summaries can help address the challenge of translating the technical language of EIA reports into something that is meaningful, relevant, and accessible to individual citizens.

Improving the non-technical summary is a relatively simple task which requires a minimum of resources.

### Danish experiments with user-friendly summaries

The Danish TSO Energinet.dk has worked on a model for improving their non-technical summary by integrating good practices and research findings. The aim was to make it more citizen-oriented, e.g. by taking the point of departure in citizens' world-views and everyday lives. Their summary of the EIA of the Viking Link cable is based on this model.

In Hanstholm, Denmark, a project is under way to expand the harbour. In the EIA process, a non-technical summary was presented as a separate publication using a more accessible brochure format with many illustrations. The non-technical summary further has a specific section on how the project might impact the local population.

### Additional reading

EIAplus Dialogue toolkit for EIA and renewable energy. Link: <http://bit.ly/2Beu6ey>.

ForskEl and AAU guidance on involving citizens in designing public participation processes. Link: <http://bit.ly/29kVnfv>

The International Association for Impact Assessment's Fast Tips for a Non-Technical Summary. Link: <http://bit.ly/2lOk3Dq>

The non-technical summary of the Viking Link EIA. Link: <http://bit.ly/2lPQNMq>

The non-technical summary of the EIA of Hanstholm Port, including graphical solutions. Link: <http://bit.ly/2lPoJrK>

# VVMplus in brief

The Danish research project VVMplus was conducted between April 2016 and December 2017 by the Danish Center for Environmental Assessment (DCEA) of Aalborg University (lead), in partnership with DTU Wind Energy and the Nordic Folkecenter for Renewable Energy. The project was supported by ForskEL.

The project explored the role and importance of social consequences in EIA processes with regard to the local communities' view of new RE facilities. Based on several analyses, the project developed suggestions for improved integration of social impacts in EIA practice. The project's aims and outcomes were presented and discussed at conferences and within the project reference group composed of EIA experts and practitioners.\* Some methodologies were tested in conjunction with actual RE projects in the Danish municipalities of Silkeborg, Ikast-Brande, and Esbjerg.

## Outputs

The project produced seven main outputs:

- 1) An overview of current EIA practice in Denmark
- 2) An analysis of the role of social impacts and related dialogue in conflicts over green energy
- 3) An analysis of the barriers and opportunities for including social impacts in EIAs
- 4) A review of international experience with opposition to wind power projects
- 5) A report on testing and evaluating approaches and methods of integrating social consequences in EIA processes in Denmark
- 6) A guide to enhanced dialogue throughout the EIA process, and
- 7) The current set of recommendations.

**Learn more and download reports and outputs at [vvmplus.org](http://vvmplus.org)**



## Provide your feedback

These recommendations explore new ground, and inputs and feedback from practitioners, experts, civil society organizations, and citizens are highly appreciated. In particular, if you are applying any of these recommendations in Denmark or other countries, we would love to learn about your experiences.

### Contact

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\*The reference group included representatives of the Danish Environmental Protection Agency, Danish Wind Turbine Owners' Association, Rambøll, Sweco, COWI, NIRAS, PlanEnergi, and Danish District Heating Association.





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