NEW

POLICY BRIEF

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Concerning: Policy brief: Legal framework for the realization of offshore solar parks

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1 INTRODUCTION & CONCLUSION

1) The SENSE-Hub project aims to accelerate the potential rollout of offshore solar. The future offshore renewable energy system is envisioned to consist of wind turbines, platforms with electrolysers, power export cables, and pipelines to transport green hydrogen. The addition of offshore solar to these systems can be of critical importance for the feasibility of these systems. Firstly, offshore solar allows for additional energy generation without additional spatial requirements. Secondly, it presents rewarding system integration opportunities as the energy patterns of solar and wind are complementary. Thirdly, offshore solar enables better utilization of shared offshore infrastructure, such as export cables and substations, lowering overall system costs. It also relies on a different supply chain than wind, allowing for parallel development and relieving pressure on the offshore wind sector. Lastly, it presents opportunities for faster deployment and reduced ecological footprint through integrated multi-use designs.The goal of the SENSE-Hub project is to develop an understanding of the merits and challenges for enhancing offshore renewable energy systems with a second, complementary energy generation source.

2) For the purpose of the SENSE-Hub research project, legal research has been conducted by NewGround Law to provide an overview of the legal framework for the realisation of offshore solar and the integration into the electricity transmission system as well as potential challenges and questions that may arise during the realisation of offshore solar. The research examines both environmental and energy law aspects, with particular attention to permitting procedures, the interaction with offshore wind farms, and legal limitations for grid integration.

3) Based on our research, it can be concluded that the legal framework for offshore solar development in the Netherlands presents several key challenges. While the government recognises offshore solar as a promising complement to wind energy, its realisation is currently hindered by regulatory barriers. To fully unlock its potential, legislative amendments and better integration into planning and permitting frameworks are required.

4) This policy brief presents a summary of the key findings from the legal research. The following paragraph outlines the key findings concerning offshore solar development in the Netherlands and the main challenges, while providing targeted recommendations to strengthen the legal framework for offshore solar integration.

2 KEY FINDINGS, CHALLENGES AND RECOMMENDATIONS ON OFFSHORE SOLAR REGULATION

5) In this paragraph, the key findings of the legal research are discussed in more detail. The most important permit requirement for offshore solar parks is discussed first. This is followed by an exploration of the environmental research required to assess ecological impacts. The analysis also addresses the potential integration of offshore solar into existing or planned offshore wind farms, along with the current limitations for connecting offshore solar parks to the electricity transmission system. Furthermore, the competition in the permitting process is considered, particularly in cases where multiple parties express interest in the same offshore location.

2.1 Permit granting requires clarity on grid connection and electricity transmission for offshore solar power

6) Which permits will be required for the realisation of an offshore solar park depends, among other things, on the location of the project and its possible effects. The realisation of an offshore solar park can take place within the

so-called territorial zone or Exclusive Economic Zone ("**EEZ**"). As far as the effects are concerned, it is particularly important whether and what ecological effects can occur since those effects may lead to separate permitting obligations.

7) An *environmental permit for a restricted area activity* is always required. This is the most important environmental permit to be obtained for the realisation of an offshore solar park. Among other things, it assesses the possibility of shared use at an offshore wind farm. By obtaining this environmental permit, in principle, the most important permission has been obtained for the realization and operation of offshore solar.

8) Whether or not the offshore solar park can actually be built may play a role in obtaining an environmental permit for an activity in a restricted area. On the basis of case law, it is relevant whether the project, for which an environmental permit has been applied for, can be realized. If this is not plausible, then there is no application on which a decision must be made. Since it is highly questionable whether every offshore solar park can be realized due to the possible limitation of connecting it to the electricity grid, this may be a ground for not processing such environmental permit applications. This limits the possibility for offshore solar development due to the unavailability of connection options to the power grid.

9) A possible improvement in this area could come about by making the connection to the public grid of offshore solar legally enforceable. In the absence of this, developers of offshore solar will for the time being remain dependent on the willingness of operators of offshore wind to allow connection to the public grid.

2.2 Recommendation to include the impact of offshore solar in an EIA for offshore wind

10) The European Strategic Environmental Assessment Directive ("**SEA Directive**")[1] and the European Environmental Impact Assessment Directive ("**EIA Directive**")[2] require an environmental impact report or environmental impact assessment ("**EIA**", in Dutch *m.e.r.*) for certain plans and projects prior to taking a decision on the adoption of the plan or the authorisation of the project. The EIA identifies the environmental consequences of a plan or project in a prescribed manner before the decision is taken or the plan is adopted. The competent authority shall take the environmental consequences into account in its assessment when deciding on plans and projects with a potentially significant impact on the environment.

11) Whether the EIA obligation applies to the construction of offshore solar depends on a multi-step assessment, which includes determining whether the activity is designated under the relevant legislation, whether applicable thresholds are met, whether the activity falls under a plan or program subject to an EIA obligation, or whether a designated decision or permit is involved. We will next examine the environmental assessment obligations for offshore solar, either on its own or in combination with offshore wind.

12) Based on our research, it is concluded that offshore solar is not designated as an activity requiring an EIA. Furthermore, offshore solar does not fall under any of the designated general activities. As a result, there is no obligation to carry out an EIA before granting any of the permits for offshore solar.

13) Nonetheless, if the integration of an offshore solar park requires the adoption of a plan or programme, an EIA obligation may still arise at that level.[3] This is referred to as a plan EIA (*plan-MER*). Such an obligation exists, if:
    - The plan or programme must be subject to an appropriate assessment of its effects on a Natura 2000 site; or
    - The plan or programme permits an activity which has not been identified but which is likely to have significant effects on the environment.

[1] Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programs on the environment.
[2] Directive 2011/92/EU of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment.
[3] Art. 16.53c Environmental Act.

14) If a plan requires an appropriate assessment, this creates an obligation to conduct a plan EIA regardless of the activities to which the plan or programme relates. This basis may therefore lead to an obligation to carry out an EIA for a plan or programme, which also involves offshore solar parks, if the plan or programme is not directly linked to the management of a Natura 2000 site, and is likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects. In the case of new offshore wind farms, which also enable offshore solar parks, the cumulative effects of both projects on a Natura 2000 site must be determined in order to determine whether an appropriate assessment should be carried out.

15) In addition, if a plan or programme is likely to have significant effects on the environment, an EIA must also be drawn up. The assessment of significant effects on the environment shall take into account the criteria set out in Annex II to the SEA Directive. This obligation to carry out an plan EIA screening is new in Dutch legislation and concerns an implementation of the SEA Directive that had not taken place before. On the basis of this obligation, it can be assumed that a plan or programme that includes an offshore solar park has always become subject to an plan EIA screening. At present, it is unknown whether an offshore solar park is a project that is likely to have significant effects on the environment.

16) The Environmental Act does not contain an exhaustive list of plans or programmes that fall under the EIA regulations. However, an environmental vision, a programme, an environmental plan or an amendment to the environmental plan and a preferential decision do in any case constitute a plan or programme within the meaning of the Environmental Act. The adoption of such a plan or programme, which relates to offshore solar parks, should therefore in any case be subject to an plan EIA screening or, if one of the above situations occurs, a full plan EIA.

17) Although this research concerns the realisation of offshore solar, the integration with offshore wind farms remains essential at this stage. The construction of offshore solar is possible at both existing and new offshore wind farms. In this context, a wind farm site decision (*kavelbesluit*) is of particular relevance, as it determines where a wind farm may be built and operated, and sets out the applicable conditions, including environmental considerations. To date, a wind farm site decision has so far not been designated as a plan EIA-obligatory plan, but only as a project EIA-obligatory decision. This means that an EIA is required only at the stage of permitting an individual project rather than at the earlier, more strategic planning level where broader spatial or environmental considerations might be assessed.

18) It is recommended that the legal status of wind farm site decisions as plan EIA-obligatory plans be clarified in legislation. Currently, it remains uncertain whether a wind farm site decision itself triggers a plan EIA obligation, even though it establishes the framework for granting environmental permit(s) for wind farms within the designated site. Clarifying this would provide certainty for the assessment of environmental effects, particularly when offshore solar parks are integrated within such sites.

19) In the meantime, it is advisable to consider the potential contribution of the offshore solar park to the EIA and include the effects of offshore solar. The above consideration is particularly important regarding the potential effects of the offshore solar park on a Natura 2000 site and its cumulation with offshore wind. A plan EIA screening should therefore be carried out for any plan or programme that includes offshore solar, to ensure that environmental impacts are properly assessed.

20) Concluding, while offshore solar alone is not currently designated as a EIA-obligatory activity, an EIA may still be required at the plan or programme level, particularly when Natura 2000 sites or the environment could be affected. It is therefore recommended that a plan EIA screening be carried out for any programme or plan that includes offshore solar. Furthermore, legislation should explicitly clarify whether wind farm site decisions are considered plan EIA-obligatory plans. In the meantime, the potential environmental effects of offshore solar parks, including

cumulative impacts with offshore wind and effects on Natura 2000 sites, should be taken into account when assessing such plans or programmes.

2.3 Integrating offshore solar into offshore wind farms

21) The National Water Programme 2022-2027 (*Nationaal Water Programma*, **"NWP"**) sets out the main principles of national water policy and the management of national waters and roads.[4] An integral part of this NWP is the The North Sea Programme 2022-2027 (*Programma Noordzee 2022-2027*, "**Programme**"), which governs the permitting of offshore solar parks.

22) The Programme contains, among other things, a framework for shared use within offshore wind farms. Permissible forms of shared use within offshore wind farms are limited to aquaculture, passive fishing, nature development and other forms of renewable energy and storage.[5] The Programme shows that the government sees the production of electricity from solar energy offshore as the most promising option alongside wind energy, where the space between wind turbines is considered the most logical location for this, since the infrastructure to transport the generated electricity is already in place.[6] Moreover, the holder of a wind farm permit cannot refuse shared use within its designated lot.[7]

23) At the same time, under the current legal framework, it is not possible to impose an obligation to allow offshore solar in between an existing offshore wind farm. However, from an environmental law perspective, such an obligation is not necessary. The granting of the necessary permits for an offshore solar park does not require the approval of a nearby offshore wind farm.

24) In addition, it is not necessary to amend a site decision for an existing offshore wind farm in order to enable the realization of an offshore solar park. After all, a wind farm site decision only restricts the possibility of realising an offshore wind farm. For the realisation of offshore solar, a wind farm site decision is not conditional.

25) However, the integration of offshore solar installations into existing wind farm sites raises several other challenges to identify. First, the environmental decisions for existing offshore wind farms, such as the plot decision or the permits granted for offshore wind, do not permit the construction of offshore solar parks. This means that the addition of offshore solar parks to the existing offshore wind farms requires new specific decision-making. This thus concerns the above-described obligation to obtain specific environmental permits for the realization of offshore solar. In obtaining that environmental permit, coordination with further surrounding activities in the North Sea, including offshore wind, also takes place.

26) Finally, when it comes to the realisation of a new offshore wind farm, there is an opportunity to integrate the realisation of an offshore solar park and realise it at the same time. It is recommended that the potential addition of an offshore solar park be explicitly considered during the wind farm site decision process. The envisaged addition of the offshore solar park can be taken into account in the wind farm site decision and the effects of both projects can be taken into account in the granting of permits by means of regulations. This approach facilitates efficient use of the North Sea area while addressing environmental and regulatory requirements in a comprehensive manner.

[4] NWP 2022-2027, p. 3.
[5] North Sea Programme 2022–2027, p. 129-130.
[6] North Sea Programme, p. 69.
[7] *Parliamentary Papers II* 2018/19, 35 092, no. 3, p. 19.

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2.4 Necessary enforceability of grid connection for offshore solar

27) Under current law, the offshore grid operator is not obliged to connect offshore solar or to offer electricity transmission for them. This is where offshore solar differs significantly from offshore wind. For offshore wind farms, there is an obligation to connect holders of a permit for an offshore wind farm, as regulated under Offshore Wind Energy Act (*Wet windenergie op zee*, "**Woz Act**").[8]

28) In practice, however, the use of the existing cabling and grid infrastructure of an offshore wind farm by an offshore solar park is technically feasible. This concept – known as "cable pooling" – allows multiple energy sources to share a single connection. While cable pooling is explicitly permitted onshore under the Electricity Act 1998 (*Elektriciteitswet 1998, "***E-Act**"), the same does not apply offshore.[9] The current legal framework does not permit cable pooling at sea between an offshore wind farm and an offshore solar park. This possibility is only introduced under the forthcoming Energy Act.

29) With regard to the realisation of offshore solar, the Energy Act provides for the possibility of connecting installations to the offshore transmission system, insofar as these offshore solar installations are connected to existing or new installations for offshore wind farms. The offshore solar is subject to the voluntary authorisation of the holder of the permit for the wind farm. This is evidenced by the fact that the transmission system operators obligation to connect and transport at sea only applies to the holder of a permit for an offshore wind farm. In addition, the Energy Act emphasizes that the wind farm, after voluntary admission of a solar park, remains responsible for concluding a new connection and transmission agreement for the new capacity.

30) The forthcoming Energy Act offers thus only limited improvements in this regard. The new legislation continues to omit any connection or transmission obligation for grid operators in relation to offshore solar parks. Nonetheless, it does introduce a formal recognition of the possibility of joint connections between offshore wind and solar energy projects. While this may create more room for integrated solutions, the realisation of such joint connections will remain dependent on the willingness of the involved parties, as long as no mandatory framework is introduced.

2.5 Possible tendering system for permitting offshore solar

31) If there is more demand than supply for the opportunity to build an offshore solar park, there may be a shortage of permits. In this case, there may be an obligation to tender the permitting due to scarcity of these rights.

32) First of all, it is important to consider how realistic the scenario is that there are multiple permit applications for the same potential offshore solar park location. If it is established that it is not possible for the solar park to contract with a third party wind farm holding a (right to a) grid connection, this will affect the feasibility of the project. Without a guarantee of access and/or grid connection, an initiator is unlikely to apply for a permit. As long as there is no general obligation to connect offshore solar, the likelihood of multiple parties applying for competing permits appears limited.

33) It is also important to note that only scarcity created by the government itself creates an obligation to tender for the permits. For the realisation of offshore wind farms, the government has chosen to make the scarce permitting rights available via a tender. The government created scarcity in the number of offshore wind farms possible and presented these to the market based on predetermined criteria.. The scarcity for offshore wind comes about through the Woz act. This act prohibits the realisation of an offshore wind farm outside a site decision and only one permission can be granted within a site decision. As a result, it is not possible to obtain a permit for an

[8] Art. 12; art. 16 Woz Act; Art. 24a E-Act.
[9] Art. 1, lid 6 E-Act; art. 7 E-Act.

offshore wind farm outside a site decision. Such a system does not yet exist for the permitting of an offshore solar park, so when assessing an application for an environmental permit for it, there is no scarce right for the time being.

34) Nevertheless, there is scarcity in the possibility of actually realising an offshore solar park. This is due to the limited possibility of connecting the offshore solar park to the offshore electricity grid and transporting the electricity to shore. It is effectively impossible to force a connection of an offshore solar park to the electricity grid: there is no obligation for the grid operator to connect and transport. As a result, there is only a possibility to connect an offshore solar park for electricity transmission to the cabling of an offshore wind farm. This then restricts the possibility of constructing an offshore solar park, as it requires the consent of the offshore wind farm operator. This creates scarcity, but does not concern the type of scarcity that exists with offshore wind farms. After all, that scarcity of offshore wind is the result of laws and regulations limiting the licensing, and for solar parks it is not. The solar park permitting is now based on the 'first come, first serve' principle and the initiative lies with the market.

35) The above does not alter the fact that there may be reasons for the central government to nevertheless set up a system similar to offshore wind for the licensing of offshore solar parks. However, this only makes sense if there is more demand for the realisation of offshore solar parks than there is supply for them. In the site decision on the plot *Beta wind energy area IJmuiden Ver (Windenergiegebied Ijmuiden Ver, kavel Beta)*, it was decided not to make the shared use within the plot decision part of the decision-making process, but to let it take place in a follow-up process. Insofar as that shared use also enables an offshore solar park, the granting of a permit for that is therefore not subject to tendering.

36) If the central government nevertheless sees reason to start enabling the granting of permission for offshore solar parks via tendering as well, it is advisable to draw up a specific legal framework for this. Such a legal framework could have the same set-up and system as the specific framework for offshore wind farms. Granting a scarce right to realise an offshore solar park can then be done in two ways. The first way is to allocate this right at the same time as the allocation of the right to realise an offshore wind farm. The second way is to hold a separate tender for the right to realise an offshore solar park. In both cases, it is important that the ability to connect the offshore solar park is part of the obligations for the offshore wind farm operator. In other words, the offshore wind farm operator has a connection and transmission obligation in respect of the offshore solar park, as long as it is not possible to connect the offshore solar park separately to the electricity grid.

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