Edge scouR at OffShore foundatIONs

Publieke samenvatting / Public summary

Aanleiding

The majority of foundation structures for offshore Wind Turbine Generators (WTGs) are equipped with a loose rock scour protection to prevent adverse effects from local erosion at the foundation (scour). A scour protection should be of sufficient dimensions to protect the seabed from the most severe amplified flow conditions. However, at the edge of the protection seabed lowering may still occur. This can be related to 1) disturbance of the flow by the scour protection itself, 2) large-scale seabed dynamics (for example, sand wave migration) or 3) insufficient coverage of the area that is affected by amplified flow conditions. The common solution for dealing with edge effects at a scour protection is to increase the extent of the protection, which rapidly and non-linearly adds up to the overall required volume of rock, and thus costs. Furthermore, edge scour may result in exposure of the power-cables, which could impact their overall performance.

Doelstelling

To further develop design guidelines to optimize scour protection design by minimizing required volumes whilst minimizing risk to the power cables, we propose to perform a systematic and in-depth investigation into seabed change at the edge of scour protections and its consequences for the scour protection.

Projectinformatie / Project information

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