The authors would like to thank the reviewer for the constructive recommendation and comments which will help improve the current and future work. In the following, the authors would like to respond to the reviewer's comments. The addressed comments are included in italic font.

1. *page 2, lines 35-37. It may be worth noting that the Fukushima Forward project in Japan tested together three different wind turbines connected to the same floating substation. It was the first floating wind farm, but with only a limited operating life as units were prototypes.*

   This aspect is included in an additional note, when mentioning the Hywind Scotland pilot park.

2. *page 3, line 50. Beware: Advanced-spar may be protected by copyright by JMU (Japan-Marine-United) as it is the name of their concept.*

   The authors could not find any information on the question if the term "advanced spar" is protected by copyright by JMU. However, it is ensured that the pure term "advanced spar" is only used in relation to the Fukushima Floating Offshore Wind Farm Demonstration Project FORWARD and otherwise the terms "advanced spar-type …" or "advanced geometry spar" are used throughout the paper.

3. *page 3, lines 56-59. Does this mean that the structural arrangement is not considered in the optimization process ? Rewording may be useful.*

   The original sentence "The focus of the optimization procedure lies on hydrodynamic and system-level analyses and no further limitations regarding a high detail structural design are added." is reformulated into "The focus of the optimization procedure lies on hydrodynamic and system-level analyses and not that stringent limitations on the structure and dimensions are required.".

4. *page 4, lines 104-107. It may be pointed that the ballasting operations of this unit proved complex: the hull accidentally listed more then 30degrees when it was brought to a deeper draught than the construction draught.*

   A sentence on this issue is added.

5. *page 6, lines 170-172. The ratio of structure mass to volume on the Hywind demonstrator is in excess of 0.17.*

   A note is added that the Hywind demonstrator is for safety reasons oversized and the given ratio of 0.13 is based on representative values from research designs and academic studies.

6. *page 13, lines 315-317. Load cases with transient loads (grid loss + gust) usually give rise to high accelerations and loads. It would be useful to clarify why they were not considered.*

   This aspect is addressed in the discussion chapter by additional remarks added at the end of the first main paragraph in Chapter 6.

7. *page 13, Table 3. Although sufficient for the demonstration of the optimisation method, using only one wave period may not be sufficient to capture the influence of the change of natural periods in the iterative optimisation process. A discussion / warning on this point should be added in the paper.*

   This aspect is addressed in the discussion chapter by additional remarks added at the end of the first main paragraph in Chapter 6.

8. *page 14, line 334. Simulation times as low as 600s do not allow to capture the low frequency dynamics of the floating wind turbines. It is understood that this is sufficient for the purpose of demonstration of the process, but this cannot be considered in the design process of a structure to be built.*

   This aspect is addressed in the discussion chapter by additional remarks added at the end of the first main paragraph in Chapter 6.

9. *page 27, lines 573-577. Or using plated partial bulkheads for loads transfer.*

   This aspect is included in an additional note.