Referee Report

I appreciate the effort in making the new simulations (without the power constraint) and the thorough explanation of my initial concerns.

The main question I raised in the first review was how the area constraints affect the optimisation results. The authors argue that most current and planned wind farms in the North Sea have power densities between 5 - 10 MW/m2, and they therefore limit the optimisation to 6.7 MW/m2. I argued that 2.2 MW/m2 might be more realistic for future tender, but I also questioned why a constraint is even needed. The Borssele wind farm that the authors reference has a power density of 4.4 MW/km2. The new North Sea tenders in Denmark have power densities of about 2.6-2.7 MW/km^2 (estimates can be made based on the map material https://ens.dk/sites/ens.dk/files/Vindmoller_hav/nsl_hjemmeside_202402_0.png - 1 GW for each area).

The new simulations added to the review comments show that the constraints are unnecessary and that results are similar to the constrained results. This is a significant result that the authors should (briefly) mention in the Method section to argue that the chosen constraints have minimal effects on the results.

The other question raised in the original review was regarding the gridded placement of the wind turbines, which are aligned to maximise production, not market value. The authors write in the review comments that layouts that maximise production are not expected to favour the LCOE-optimised turbine compared to the market-optimised turbine. I am not convinced about this statement. Wake losses are traditionally measured as a loss in energy production. However, the new perspective of market-optimised designs should see wake losses as a reduction in revenue. Production- and revenue wake losses are not necessarily directionally aligned. The authors should clearly state (or discuss) in the method section that they assume that the production-optimised layout does not favour the LCOE-optimised turbine compared to the market-optimised turbine.