General Comments:

Overall, the work is novel and exciting, relating simulations to potential flow theory to good effect. I foresee this being a high-quality publication, however several shortcomings need major attention:

- In the Introduction, there is confusing terminology as “wing” is often used in place of “blade” when referring to the actual blades of the turbine. “Wing” should be reserved for the stationary lifting element mounted behind the rotating blades.
- The review of previous literature is erratic and compromised by confusing use of the term “wing-pitch” and “blade-pitch” in inappropriate places (i.e., to describe wake steering, for instance). I recommend adopting a more conventional naming scheme (static induction control, wake steering, wake mixing, for instance) or justifying the use of your new language.
- Throughout the manuscript (i.e., all figures after Fig 3) axis labels and colorbar labels are missing values, making interpretation of the figures impossible.
- The grid convergence study was done on a configuration without ABL control devices. However, a main aspect of the article relates to the use of ABL control devices, which produce significant vortices in the wake. No convergence study is done on the ABL-controlled configuration nor is even given a description of how the mesh size relates to the size of the streamwise vortices generated (i.e., how many cells are expected across the smallest vortex to be generated? And are there any limitations to acknowledge because of this value?).
- At first read, it’s not clear why so much attention is paid to comparing the ND and non-ND cases. The first mention of “induced-drag” is in Section 3.2 when describing the layout of results figures. The significance of including vs not including ND in the simulation must be introduced first.

Specific Comments:

Line 22 – why limit this to “per land surface area”? Land is mentioned twice in this paragraph but it could also be sea surface area.

Line 31 – why are you excluding “blade-pitch” control strategies like the pulse and helix methods?

Line 32 – this paragraph appears haphazardly written, jumping from the reference of Dilip and Porte-Agel (isn’t this a paper on wake steering not “wing-pitch control”) of HAWTs to that of Nash (again, this is not “blade-pitch control” but standard wake steering that is mostly discussed) of HAWTs, right into Ferreira’s work on VAWTs. This progression demonstrates lack of knowledge of the existing literature and should be cleaned up and expanded.

Line 36 – What do you mean “non-pitched wings”? Was Ferreira using pitched “wings” (i.e., blades)? Maybe it is implied in the next sentence, but the reader shouldn’t have to infer what you mean.

Line 45 – this paragraph again is haphazard. There have already been several references to yaw-control strategies (i.e., wake steering) of HAWTs and VAWTs, and now the text is re-describing wake steering in the HAWT context.

Line 111 – is the use of D^2 implying that the multi-rotor system has the same width as height? If so, could you mention that explicitly?

Line 122 – it appears that the multirotor system is spread over many cells in Fig. 3; why does the text say that the multirotor extends “one finite-volume cell” in the vertical direction?

Line 147 – there is no circular geometry in this setup, so how does a “diameter-based Reynolds number” make sense here?

Line 149 – please comment on the realism of the 1% freestream turbulence intensity and how this value may affect conclusions to be drawn

Line 157 – if f_T and f_W are kept constant and C_y,W and C_x,W are also always constant, then is the wing’s chord being reduced as the number of wings increase? Some mention of how this is accomplished is merited.

Line 231 – why, after splitting the ND cases from the non-ND cases in Figures 6-7, does Figure 8 combine them into one figure (without any mention in the figure caption of where the ND and non-ND cases are in the figure)? Line 253 would be a good place to introduce a new Figure 9.

Line 278 – again, there is no indicator in the figure of which three cases we are looking at

Line 300 – it would be helpful to introduce the u_y u_w quantity here before discussing the figures to give context why this quantity is relevant and why u’_y u’_w, which is often the entrainment quantity of interest behind a wind turbine, is not considered. Brief discussion about how the baseline case will still get most of its wake recovery from the turbulent flux might be helpful, too.

Technical Corrections:

Line 1 – please change “pared” to “paired”

Line 89 – deferrable is misspelled

Line 124 – remove the word “far”

Line 145 – the sentence “The outlet is modeled as a free-stream flow condition and zero-gradient for pressure” has already been used earlier.

Line 149 – please change the word “verging”

Line 159 – please define “ND” before using in the table

Line 164 – cell elements do not have a “diameter”

Line 240 – “threefold” (what?), and again in line 294 “twofold” is used without a noun following it

Line 267 – would it be more readable to say u_y(z) instead of u_y(z/D)?