The mutual fluid-structure interaction between wind turbine(s) and the highly turbulent flow deep inside a large wind farm is investigated in order to elucidate on how to implement and perform dynamic wind farm control. The study employs a fully coupled LES and aeroelastic framework, which provide time resolved flow and turbine response governed by a controller. The results show a large correlation between incoming flow and turbine response, which extends several radii upstream and could be utilized for turbine control by e.g. installing a lidar on top of the wind turbine. Similarly, the results are valuable for utilizing nacelle mounted lidars for power curve assessments in large wind farms. However, the correlations between turbine and wake flow as well as the dynamic wake position are low, which is potentially discouraging for attempts to do instantaneous yaw steering.