We want to thank the anonymous reviewer for their useful final feedback which helped improve our manuscript's clarity and correctness.

Technical correction from referee:
line 99: strain

Cell size was measured for each strain in both nutrient replete and nutrient depleted cultures.

line 107: lower case C

For replete experiments, growth rates were estimated using change in cell abundance over time as estimated using a fluorescence plate (BMG Labtech) with chlorophyll fluorescence excitation at 420 nm and at 680 nm - which were calibrated against manual Sedgewick Rafter Counter (SRC) counts.

line 143: I think the terms used should be "nitrogen-replete" and "nitrogen-depleted"?

Photosynthetic efficiency (Fv/Fm) and electron transport rates (ETR) (Maxwell et al., 2000) were measured using Pulse-Amplitude Modulation (PAM) for both nitrogen-replete and nitrogen-depleted cultures, which was conducted using a Walz WATER-PAM.

line 147: "plant" might want to be changed to "algal"

However, in practice, Fv/Fm is generally interpreted as a proxy of algal health.

line 150 : "of" to "in"

ETR is also a measure of photosynthetic yield but is measured in light-adapted cells and is a direct measurement of the quantum yield of photochemical energy conversion.

line 158: micron symbol

For the nitrogen replete experiment, cultures were grown under 220 µM NO3 and Fv/Fm and ETR were measured during the150 exponential growth phase.

line 163: not sure what you mean by "lost"

We replaced “lost” with “died”

Measurements were taken for only PLY182g, RCC6535, RCC3777 and RCC1203. RCC1200 and RCC3779 died before the Fv/FM and ETR measurements were conducted.

line 344: nitrogen-replete

Under nitrogen-replete conditions (Fig. 6a), the genome content accounts for 5-15% (10.7 ± 5.8 %) of the nitrogen budget.

line 455: "other" to "the presence of other" ?

Our study shows that the genome content of HET cells is twice that of HOL cells, but that, nonetheless, the nitrogen quotas of both phases are similar when nitrogen deplete, which suggests that the presence of other trade-offs not considered here might be essential in sustaining similar minimum nitrogen quotas for HET and HOL cells.

line 489: nitrogen-replete

We found that genome content plays a minor role in the nitrogen budget of nitrogen-replete cells, but that the absolute DNA content is higher for HET cells.