**Enhancing Albedo** Buoyant Flakes might increase the albedo of the dark blue/nutrient-poor regions of the global ocean from 0.06 to something like 0.12 (where 0.25 is the albedo of green grass). The math for using Buoyant Flakes’ nutrient-supplemented phytoplankton and seaweed to increase ocean albedo goes something like this:

Now, the entire ocean surface of 351Mkm2 (global surface is 510) should not be used for two main reasons. First, we should exclude those waters near to continental landmass that are typically given nutrient supplementation by way of runoff or upwelling. This might amount to, perhaps, 25% of the ocean surface. Second, we need to allow for the fact that (assisted) marine cloud of all thicknesses might reduce the negative radiative effect of ocean brightening by perhaps as much as another 70%. As the sources mentioned for Albedo seem to indicate that latitude, season and angle of incidence are included, and as light diffused through cloud has the full spectrum of angles of incidence, (and more pertinently as the necessary correcting calculations are fiercely difficult) these effects are currently ignored. With the averaged amount of sunlight arriving at the top of Earth’s atmosphere being 340W/m2 (see <https://earthobservatory.nasa.gov/features/EnergyBalance/page2.php>), it seems reasonable to estimate the order of magnitude radiative cooling effect for fully deploying Buoyant Flakes technology (excluding DMSP effects) thus:

 (351 / 510) x 0.75 x 0.3 x -0.06 x 340 = **-3.2W/m2 cooling potential**

As only half of this (-1.6W/m2) is required to overcome the current level of anthropogenic climate forcing (see <https://www.epa.gov/climate-indicators/climate-change-indicators-climate-forcing> ), but more may well be required in the mid term future, this suggests that it might be a useful measure to deploy Buoyant Flakes in complementation with other cooling, mitigation, and GHG removal methods - and after its effects at smaller scales have been shown to be net beneficial and thus become approved. It is submitted that such a modest degree of radiative cooling over most of the globe would be likely to have fewer adverse transnational effects than regionally-based, more intensive, or irreversible methods.

Regarding risk, as this would be restoring the oceanic biomass, cetaceans and fishery stocks to something like their mass in pre-industrial times, it should be a relatively safe objective where the effects are implied from paleo studies and modelling. Finally, as the ships are already built that could deliver the flakes at the necessary scale, and the materials for the supplementary nutrients are cheap, plentiful and available mainly as finely-divided industrial wastes, there seems to be no good reason why such an industry could not be developed and substantially deployed by 2035 - **provided** the requisite R&D had been successfully trialled, modelled, developed and approved for gated trials, probably first in EEZ waters.