

Correction

Correction: Lightburn, K.D. Can a Symbolic Mega-Unit of Radiative Forcing (RF) Improve Understanding and Assessment of Global Warming and of Mitigation Methods Using Albedo Enhancement from Algae, Cloud, and Land (AEfACL)? *Climate* 2023, 11, 62

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Text Correction

There were errors in the original publication [1].

A correction has been made to Section 1, Paragraph 3:

This is demonstrated by the fact that CO₂ levels have now risen since mid-2019 to 421 ppm [2] from an initial 410 ppm.

A correction has been made to Section 1, Paragraph 4:

In referring to the USD 100 billion “loss and damage” funding released for vulnerable countries hit hard by climate disasters, Guterres [1] declared that “A fund for loss and damage is essential”.

A correction has been made to Section 2.3, Paragraph 3:

Most of the following AE methods are possibly much more expensive but more politically acceptable as they can be carried out by many countries, with some producing food and being capable of control.

A correction has been made to Section 2.3.3, Total Area Required, Paragraph 1:

The benefits of extending AE projects onto arid land with nontoxic reflective material would be demonstrated.

A correction has been made to Section 2.4.1, Paragraph 1:

In over 28 countries, the results ranged from -1.04 W/m^2 (in Spain) to -8.74 W/m^2 (in Poland), with an average of -1.49 W/m^2 .

A correction has been made to Section 2.4.1, Paragraph 2:

Using a ‘temporary carbon’ measure of ThreC at only USD 10 per Ton year or only $\text{USD } 10/365 \times 100 = \text{USD } 2.74$ per ton-100 days, i.e., USD 0.0274 per ton day, we find: On a per hectare basis, this becomes an average of USD 30.05 per hectare for average Europe; USD 20.97 per hectare for Spain; and USD 176.25 for Poland. On a per acre basis, this becomes USD 12.16 for Europe on average, USD 8.49 for Spain and USD 71.33 for Poland (In the EU, normal long-term carbon credits are about USD 96 per ton in 2023). In the likely event of more El Nino-driven stronger heat waves, these prices may soon appear too low to incentivize enough farmers to convert to maintaining cover crops in this regenerative agriculture. In a similar way, the local and continental cooling produced by this AE can be calculated using the ScCd data and equivalents. In addition to this, in effect by timed release (as demanded naturally when heat waves strike), the latent heat cooling from additional retained moisture of these cover crops can easily exceed that through albedo enhancement [9].

A correction has been made to Section 3.1:

3.1. Communicating for Broader Comprehension

A correction has been made to Section 3.2.2, Paragraph 1:



Citation: Lightburn, K.D. Correction: Lightburn, K.D. Can a Symbolic Mega-Unit of Radiative Forcing (RF) Improve Understanding and Assessment of Global Warming and of Mitigation Methods Using Albedo Enhancement from Algae, Cloud, and Land (AEfACL)? *Climate* 2023, 11, 62. *Climate* 2023, 11, 218. <https://doi.org/10.3390/cli11110218>

Received: 28 April 2023

Accepted: 22 May 2023

Published: 1 November 2023



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Such AU would also cool the air with sensible heat transfer from deep ocean water, AE from surface algae reflection, and AE from DMS-produced clouds.

A correction has been made to Section 3.2.5, Algal Selection, Research, and Propagation, Paragraph 2:

A further measure may be inoculation, alongside fertilizer, with healthy algae that have the potential to dominate.

A correction has been made to Section 3.2.5:

Tropospheric Release of Iron Chloride

A correction has been made to Section 3.2.5, Coccolithophores, Paragraph 2:

Again, limestone fertilization may be worth considering as it could accompany the natural or artificial production of coccolithophores [68] (Keller1989), and these are producers of the precursor of DMS, which acts as an excellent CCN for cloud AE to accompany their apparently excellent carbon sequestration function.

A correction has been made to Section 3.2.5, Coccolithophores, Paragraph 6:

Use of some transport vessels or cruise ships, with monitors on board, should be considered as they are simple means for distribution. Their marine transport carbon footprint and perhaps more may be offset and even add to their revenue with the sale of carbon credits generated by ThreC and sequestration. Certainly even experimental use could add to their image and help educate their passengers so commercial participation should be possible to achieve. The time for the sole use of scientific research vessels may be past.

A correction has been made to Section 3.3, Paragraph 1:

The timeliness of such action is critical, as permanent loss of reflective surfaces such as snow cover needs to be replaced by new alternative AE to maintain the existing Earth Energy Imbalance (EEI) and resist its further increase.

A correction has been made to Section 3.5, Paragraph 5:

Suitable ThreC estimates for LW radiation could be identified (Section 3.6.2 below) and used to further evaluate those projects.

A correction has been made to Section 3.5, Paragraph 6:

Deserts, on the other hand, have an advantage over arid lands in that their atmosphere is clearer, with greater quantities of short-wave radiation available to reflect any AE activities into space; thus, larger ThreC effects per sq. km would occur.

A correction has been made to Section 3.6.1:

However, this approximation does not allow for the lower ratio of other GHG to total CO₂.

In the sentence below (in Section 3.8), the word “of” is missing.

A correction has been made to Section 3.8, Paragraph 2:

The above analysis points to the prospect of massive losses in albedo from snow melt on land becoming a trigger point for an unacceptable rate of heat increase.

A correction has been made to Section 4.2, Paragraph 1:

The disconnect from climate can be overcome through comprehension of the heat effect of clouds. Even a smart ninth grader can feel the cooling effects of a cloud, relate it to a learnt understanding of cloud albedo, and teach their parents.

A correction has been made to Section 4.3, Paragraph 1:

If we can further expose the potency of albedo enhancement and quickly move to utilize it, while also doing so for the latent heat portion of the hydrological cycle [9,57] (Lightburn 2024), we will win the war. Forest preservation, afforestation and reforestation [36] (Swanston et al., 2016), and regenerative farming [34] (Gilchrist 2021) will play large roles on this last path, along with precipitation and, later, evaporation from the new cloud formations.

A correction has been made to Section 4.4, Paragraph 7:

Payments by developed countries made to underdeveloped countries can activate these measurable AE projects, thus offering a thousand possible stepping stones to climate justice and yielding time to reduce our emissions.

The authors state that the scientific conclusions are unaffected. This correction was approved by the Academic Editor. The original publication has also been updated.

Reference

1. Lightburn, K.D. Can a Symbolic Mega-Unit of Radiative Forcing (RF) Improve Understanding and Assessment of Global Warming and of Mitigation Methods Using Albedo Enhancement from Algae, Cloud, and Land (AEfACL)? *Climate* **2023**, *11*, 62. [[CrossRef](#)]

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