

From: [REDACTED]
To: [Lime Down Solar](#)
Subject: Deepening Flood Risks and Hydrological Impacts of Large-Scale Solar Arrays on Clay Soils (Lime Down)
Date: 23 June 2026 21:59:44

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Dear Sir/Madam,

I am writing to share specific concerns regarding the long-term environmental, microclimate, and hydrological impacts of expansive, ground-mounted solar infrastructure—such as the proposed Lime Down project—particularly when constructed on the region's heavy clay soils under shifting climate baselines.

As the UK transitions toward the late 21st century, climate projections (such as the Met Office UKCP18 data) predict a significant increase in winter "atmospheric rivers," pushing winter rainfall intensity up by 25% to 35%.

When massive arrays of impervious glass and metal solar panels cover hundreds of acres of open green fields, they introduce two critical hydrological risks to the local catchment area:

1. The "Drip Line" & Runoff Acceleration: Rainwater sheets off the panels rapidly in highly concentrated paths rather than distributing evenly. On poorly draining clay soils, this accelerates pooling and erosion.
2. Construction Soil Compaction: The use of heavy machinery during installation crushes the delicate pore spaces in clay. Once compacted, the soil loses its natural capacity to absorb water, turning fields into low-permeability surfaces.

During heavy late-century winter storms, this combination means massive volumes of water will immediately become rapid surface runoff, rushing straight into local drainage ditches and significantly worsening flood risks for nearby low-lying communities and river boundaries (such as the River Avon catchment).

Furthermore, the Photovoltaic Heat Island (PVHI) effect risks raising localized air temperatures immediately around these massive dark installations during increasingly severe summer heatwaves, worsening soil aridity.

I request that these long term end of century hydrological compounding factors are rigorously weighed during the current examination phase of the Development Consent Order (DCO).

Yours faithfully

Mr C J Healy
Broughton Gifford Resident

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