Peer Review

Review of: "Carbon Inequality: Resolving Contradictory Results From Two Different Approaches"

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Carbon Inequality: Resolving Contradictory Results From Two Different Approaches

This manuscript addresses an important and timely question in climate policy by attempting to reconcile seemingly contradictory findings about carbon emissions responsibility. The authors distinguish between individual-level approaches (which emphasise wealthy individuals' disproportionate emissions) and country-level approaches (which highlight middle-income countries' growing emissions), proposing a framework based on "reasonable vs. excessive consumption" to integrate these perspectives. The manuscript's strength lies in illustrating why individual-level and country-level approaches produce different results, with Figure 1 providing an effective visual comparison.

However, the paper suffers from several critical weaknesses that undermine its contribution. The proposed "reasonable vs. excessive consumption" framework lacks analytical rigour, and although the authors acknowledge that this distinction is "somewhat subjective," they do not provide a clear methodology for operationalising it beyond extreme cases like private jets. Also, the treatment of population growth as part of the climate solution is problematic and potentially inflammatory, with insufficient consideration of human rights implications and an oversimplified demographic analysis.

Further, the empirical analysis appears rudimentary, particularly the country-level groupings that seem arbitrary, and the paper fails to adequately resolve the important methodological challenge of investment attribution that it raises. The manuscript also demonstrates significant gaps in engaging with relevant literature, missing key references to consumption-based accounting, environmental justice frameworks, and capability approaches to defining consumption needs. The transition from analytical comparison to policy prescriptions feels abrupt and underdeveloped, with the proposed solutions not adequately addressing structural issues or considering implementation challenges. The approach treats population

growth as a single entity, disregarding demographic transition theory, age structure, and urbanisation

patterns, potentially leading to the propagation of neo-Malthusian arguments without sufficient ethical

foundation.

To merit publication, this paper requires major revision focusing on several key areas. The authors must

develop their "reasonable vs. excessive consumption" framework more rigorously by engaging with

existing sufficiency and decent living standards literature to provide operationalisable criteria. The

empirical analysis needs strengthening with sensitivity tests, methodological transparency, and

consideration of alternative analytical approaches. The population discussion requires a more nuanced

treatment with proper attention to ethical considerations and demographic complexity. Most

importantly, the authors should focus on moving beyond identifying problems towards developing

concrete, implementable policy frameworks while addressing distributional impacts.

Declarations

Potential competing interests: No potential competing interests to declare.