

Interactive comment on “No way out? The double-bind in seeking global prosperity along with mitigated climate change” by T. J. Garrett

Anonymous Referee #1

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The submitted paper is based on a previously published paper (Garrett 2011). At that time, two papers (Scher & Koomey 2011, Cullenward et al 2011) were published that raise fundamental issues with the results of Garrett (2011). Not only does the current paper not respond to these issues, it does not even reference these papers. This alone is grounds for rejection. The issues raised in these papers would need be addressed before proceeding.

I will not take the time in this review to repeat the issues raised in these previous papers save one. The present paper begins with the statement that "In a prior study (Garrett, 2011), I introduced a simple thermodynamics-based economic growth model." As noted in Scher & Koomey (2011) and Cullenward et al (2011) there are not only fundamental empirical and theoretical reasons to doubt the validity of this model, the

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original paper had a number of methodological deficiencies. None of these issues or deficiencies are dealt with in the current submission. Instead the previous result is simply taken as given.

Further, as an example of misinterpreted or selectively quoted literature in the current paper, in section 2 the paper categorically states that "increases in energy efficiency lead to a higher rate of return and accelerated growth of the consumption of primary energy supplies". This is far from a proven result. The paper neglects to note that the excellent review of this subject by Sorrell (2009) that finds "the evidence in favour of 'Jevons Paradox' is far from conclusive" (while also suggesting that "economy-wide rebound effects are larger than is conventionally assumed", a critical nuance that is missed in the current paper).

The current paper states that "Modern IAMs are based on neo-classical economic models that, unlike EaSMs, do not explicitly represent physical flows." On the contrary, a number of IAMs (Integrated Assessment Models) do track physical flows.

It can be a challenging task to pursue (and publish) ideas that are contrary to conventional theoretical frameworks. Such ideas are bound to be challenged and, when this happens, the first step is to engage in the subsequent debate (the literature on "rebound" has some good examples of this). Then theoretical and/or empirical arguments can be evaluated.

Interactive comment on Earth Syst. Dynam. Discuss., 2, 315, 2011.

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