



EGUsphere, community comment CC2  
<https://doi.org/10.5194/egusphere-2022-5-CC2>, 2022  
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## **Reply on AC1**

Richard Rosen

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Community comment on "The effect of anthropogenic heat emissions on global warming" by Dimitre Karamanev, EGU Sphere, <https://doi.org/10.5194/egusphere-2022-5-CC2>, 2022

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Note that the author's own reference from 2016 by Bing Chen, et.al., completely contradicts this paper and the author's claims where Chen, et.al, used a sophisticated climate model. They find that the total increase in the global average temperature is only about 0.032 degrees C by 2012 due to the heat inputs to the atmosphere by human beings. As they say, so far that is fairly small compared to the overall increase by 2012 of about 1.0 degrees C as one might expect. In fact, Karamanev completely mis-characterizes the scope of the Chen paper as being limited to local heat island effects, which it is not, which might explain why he did not realize that it contradicted his own methodology.

To repeat one of the arguments I made in my first comment. The concept of the atmosphere having a heat capacity at any given time is not valid, since the heat is constantly leaking out to space. Thus, the 2.3 degree C result cited on line 264 if no heat was leaking is invalid, since heat is constantly flowing out of the atmosphere to space. Similarly, because the concept of the atmosphere having a heat capacity is wrong, Karamanev cannot rely on equation 7 on line 285 to calculate the incremental increase in the temperature of the atmosphere in any given year.

While I have not reviewed the Chen, et.al., paper in detail, its basic methodology seems to be correct since it models the constant flow of heat from its release in energy supply technologies out into space, implying that the Karamanev paper should not be published. Note also that Karamanev also makes some very silly comments about the science of climate change, e.g. stating that "Therefore, there is still no direct proof that carbon dioxide emissions cause global warming." So he is dismissing all the results of climate science models done since the 1970s in one short sentence.