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Manuscript "*Gasification without Maxwell's Demons*"

This is an interesting manuscript that revisits a well-established engineering concept from an unconventional physical perspective. Rather than proposing an incremental improvement of existing gasification technologies, the authors question one of the fundamental assumptions underlying modern gasifier design, namely that gasification is primarily the consequence of oxygen deficiency. Whether or not one ultimately agrees with their conclusions, I appreciate the willingness to challenge an established paradigm.

In my view, the paper is at its strongest when discussing the gasification process itself. The experimental observation that the operating regime cannot simply be switched from gasification to combustion by varying the primary air flow is intriguing and deserves further attention. Likewise, the proposed wave-based interpretation offers an original conceptual framework that could stimulate future theoretical and numerical work. Although the model remains qualitative, it provides a promising starting point for further development.

The manuscript also attempts to extend the discussion to broader questions concerning causality and Maxwell's Demon. These ideas are intellectually stimulating and fit the interdisciplinary spirit of *Isomorph Letters*, but the connection between the experimental observations and the philosophical conclusions is not yet fully established. Presenting these concepts more explicitly as hypotheses or future research directions would, in my opinion, strengthen the overall argument.

Something that could help the discussion is the inclusion of quantitative data that support the proposed physical picture. Even a simple analytical estimate or preliminary numerical validation of the characteristic reaction lengths would help readers appreciate the predictive value of the model. Since CFD studies are already underway, a brief indication of how they are expected to test the proposed framework could be a useful addition.

Overall, I consider this an original and thought-provoking contribution. It is not intended as a conventional engineering paper, but rather as an invitation to reconsider the physical interpretation of gasification. I believe the central idea is sufficiently novel and interesting to merit publication after appropriate revision. Even readers who may be puzzled by the proposed interpretations are likely to find the paper stimulating and worthy of discussion.