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**Energy requirements for the *in-situ* recovery of biobutanol via gas stripping**

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**Highlights:**

- Gas stripping and distillation energy requirements were determined based on 21 experimental mass balances.
- The most efficient gas stripping-distillation system consumed 34.21 MJ kg<sup>-1</sup> butanol.
- Gas stripping is less efficient than distillation by 41 – 370 %.
- Butanol concentration in the culture is the most significant factor affecting energy efficiency.
- Gas loading on the system can be reduced to improve efficiency.

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