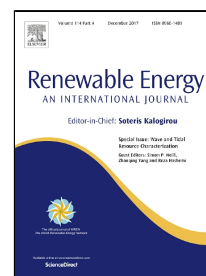


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Biomethane generation in an AnSBBR treating effluent from the biohydrogen production from vinasse: optimization, metabolic pathways modeling and scale-up estimation



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**BIOMETHANE GENERATION IN AN AnSBBR TREATING EFFLUENT FROM THE
BIOHYDROGEN PRODUCTION FROM VINASSE: OPTIMIZATION, METABOLIC
PATHWAYS MODELING AND SCALE-UP ESTIMATION**

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HIGHLIGHTS

- CH₄ production in AnSBBR from effluent of H₂ production (two-stage system);
- Gas quality and quantity: 85% of methane with a productivity of 133 molCH₄.m⁻³.d⁻¹;
- CH₄ is produced via acetoclastic route based on kinetic model;
- Energy production of two-stage system: 13.6 kJ.gCOD⁻¹ (39% higher than one-stage);
- Scale up estimation resulted in 4 reactors in parallel, each one with 1720 m³.

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