

SUPPLEMENTARY MATERIAL

Multi-Objective Sustainability Optimization of Biomass Residues to Ethanol via Gasification and Syngas Fermentation: Trade-Offs between Profitability, Energy Efficiency and Carbon Emissions

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Table S1. Elemental analysis (% dry basis) and moisture (%) of sugarcane bagasse and wood residues

	Moisture	C	H	O	N	Cl	S	ash
Bagasse ^a	50	46.96	5.72	44.05	0.28	0.03	0.05	2.94
Wood ^b	11.6	48.55	5.72	45.22	0.26	0.21	0.04	3.52

^a Bagasse composition is the same as considered in de Medeiros et al. (2017)

^b Wood residues from eucalyptus are considered the same as in Capaz et al. (2020)

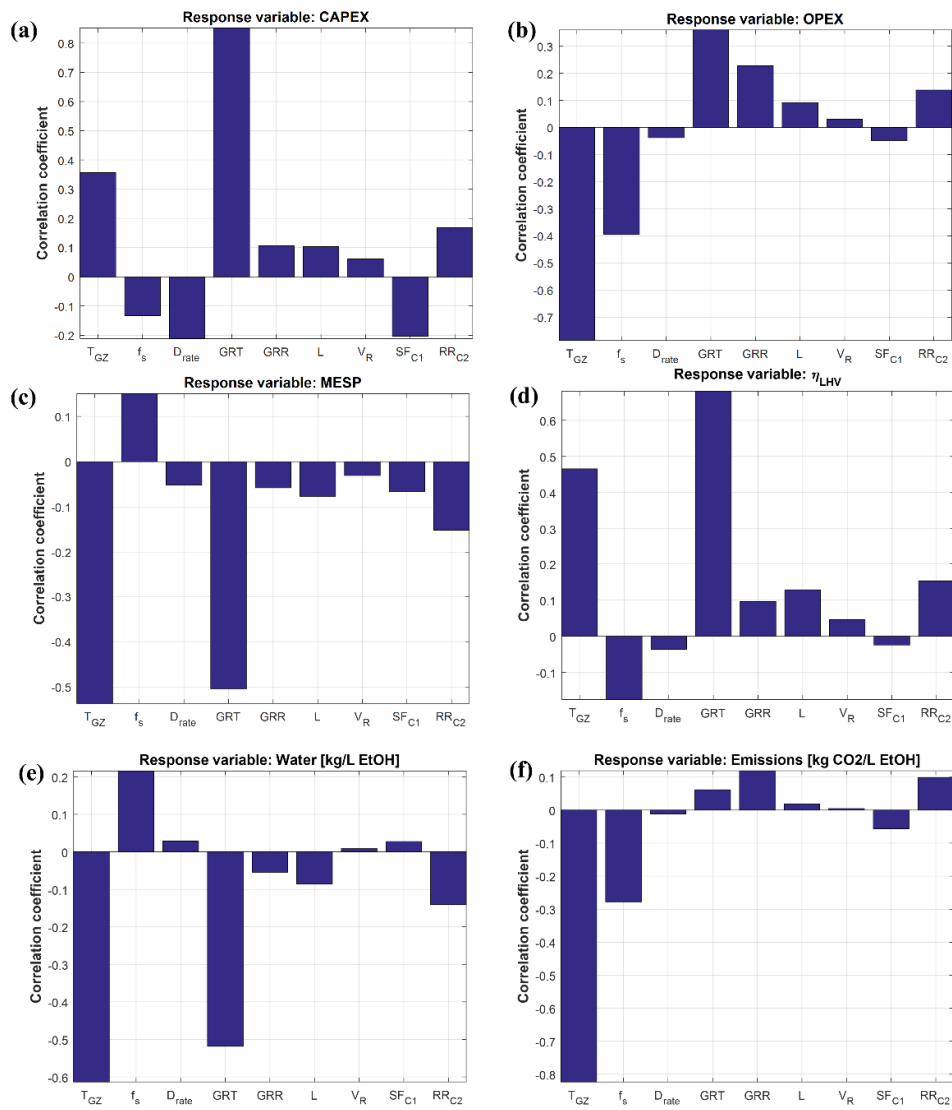


Figure S2. Correlation coefficients between decision variables and responses: wood residues.