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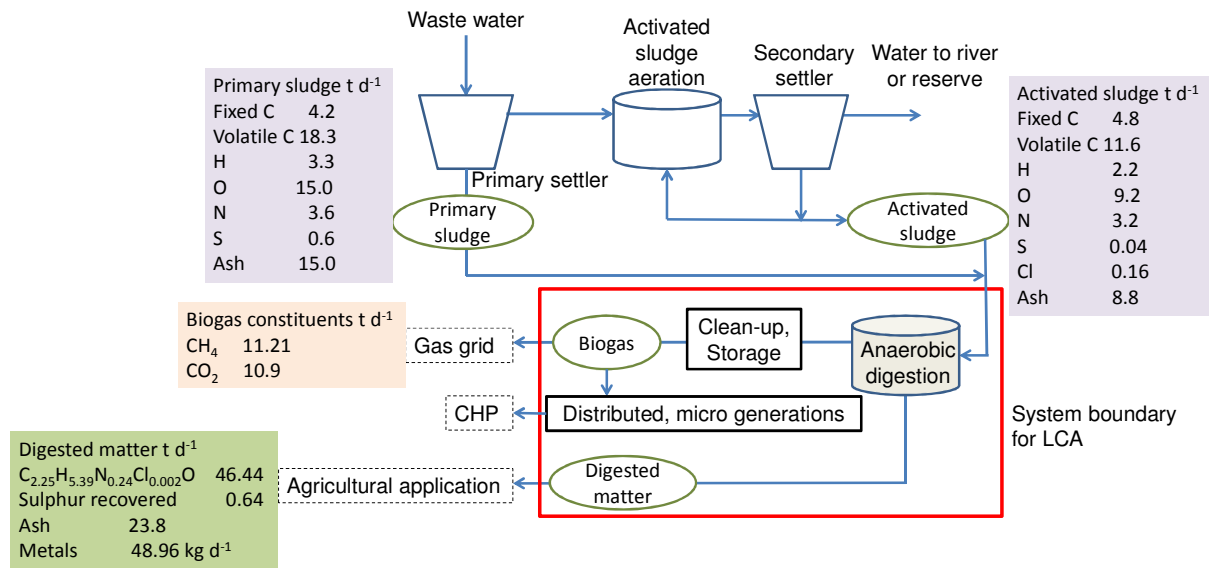
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Ash content	Weight %	Molar mass	Density g cm ⁻³
Silicon oxide (SiO ₂)	14-34	60.08	2.65
Aluminium oxide (Al ₂ O ₃)	6-23	102	3.95
Iron oxide (Fe ₂ O ₃)	5-9	159.7	5.24
Titanium oxide (TiO ₂)	1-2	79.9	4.23
Manganese oxide (Mn ₃ O ₄)	0.1	228.8	4.86
Calcium oxide (CaO)	10-20	56	3.35
Magnesium oxide (MgO)	2-6	40	3.58
Sodium oxide (Na ₂ O)	0.5-1.5	62	2.27
Potassium oxide (K ₂ O)	1-7	94	2.35
Phosphorus pentoxide (P ₂ O ₅)	15-40	283.9	2.39

Metal	Mass mg kg ⁻¹ sludge	Molar mass	Molar volume cm ³ mol ⁻¹
Cadmium (Cd)	0.6	112	13
Zinc (Zn)	220	65	9.16
Vanadium (V)	7.5	51	8.34
Lead (Pb)	47	207	18.3
Copper (Cu)	166	63.5	7.12
Chromium (Cr)	13	52	7.28
Nickel (Ni)	14	58.7	6.59
Cobalt (Co)	1.9	58.9	6.62
Thallium (Tl)	0.05	204	17.2
Arsenic (As)	0.10	74.9	13.1
Mercury (Hg)	0.4	200.6	14.8
Boron (B)	14	10.8	4.39
Molybdenum (Mo)	5	96	9.33

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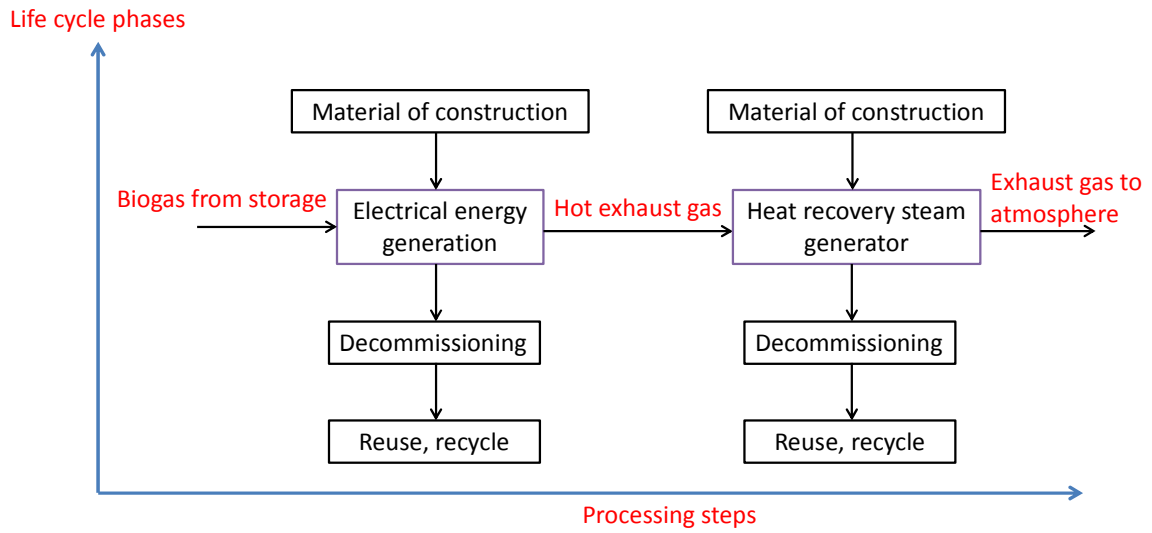
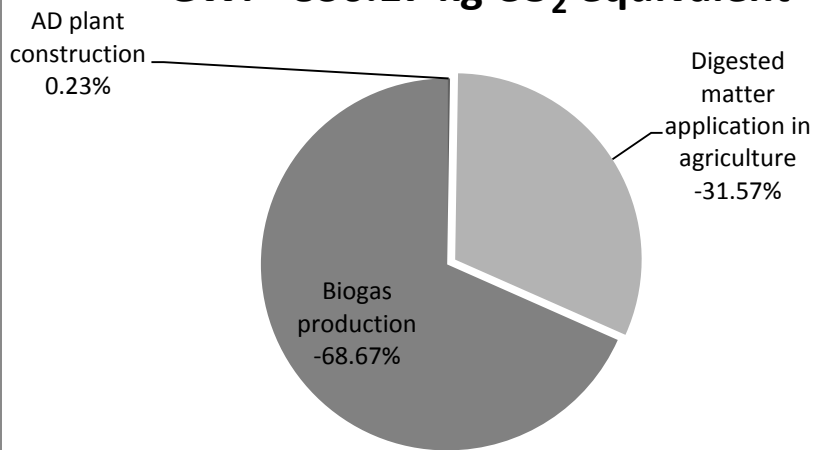
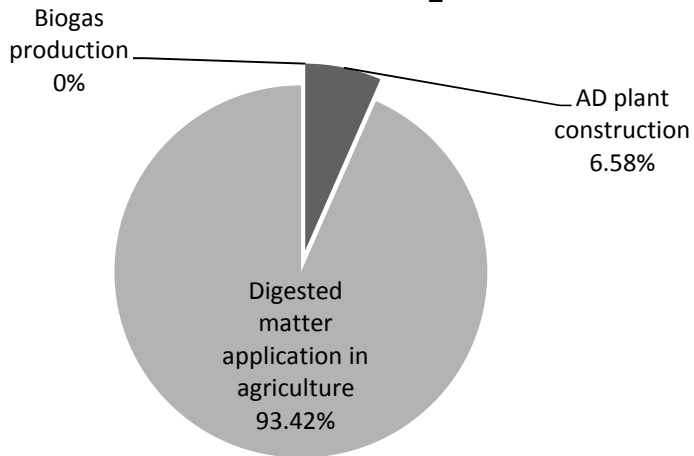


Fig. 2. Distributed and micro CHP systems' life cycle phases and processing steps for comparative LCA.

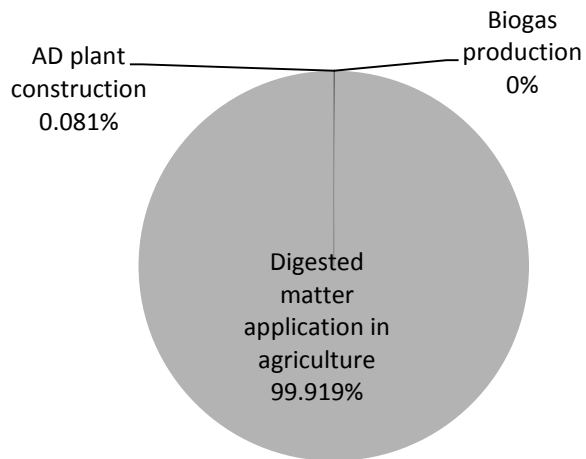
GWP -836.17 kg CO₂ equivalent



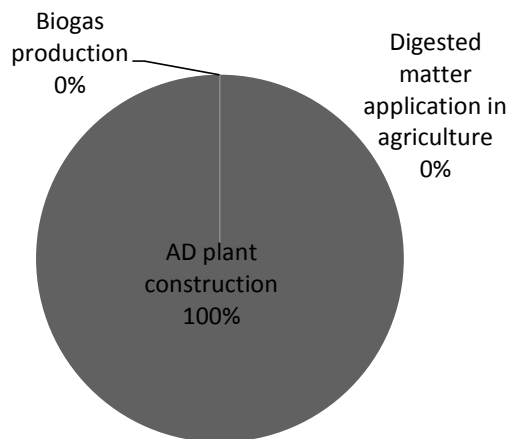
AP 0.076 kg SO₂ equivalent



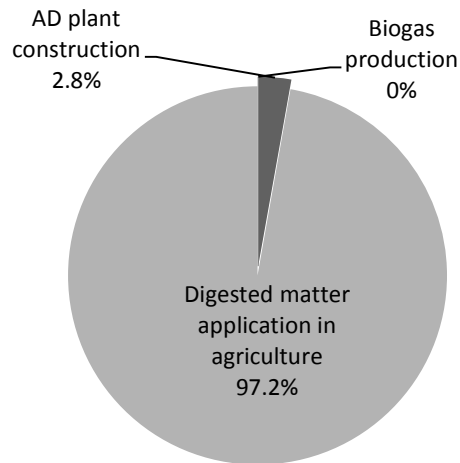
EP 2.479 kg Phosphate equivalent



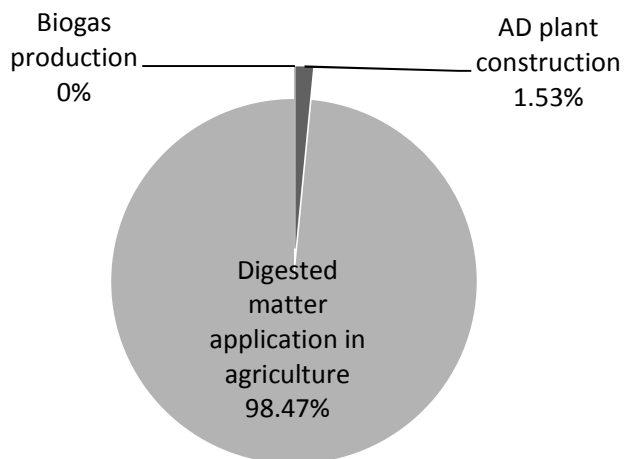
ODP 1.047×10^{-7} kg CFC equivalent



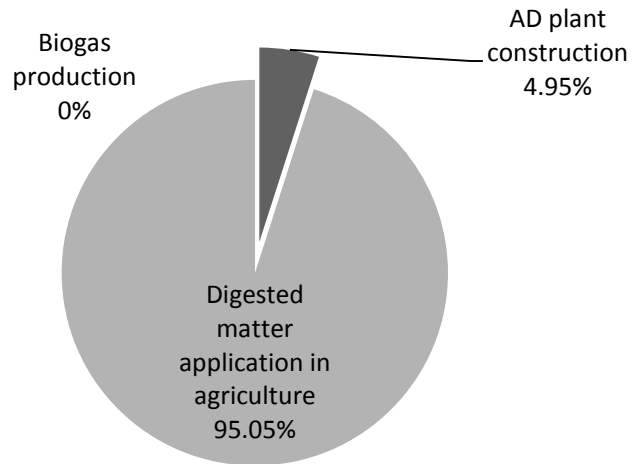
FAETP 23.609 kg DCB equivalent



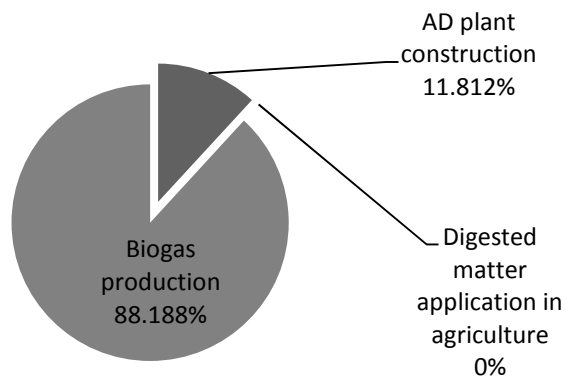
HTP 136.367 kg DCB equivalent



MAETP 20870 kg DCB equivalent



POCP 7.214×10^{-3} kg ethylene equivalent



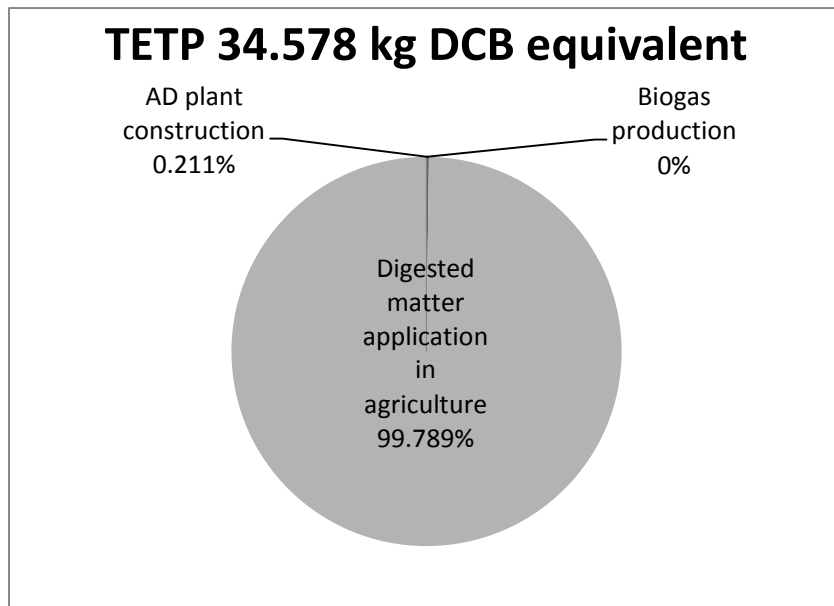


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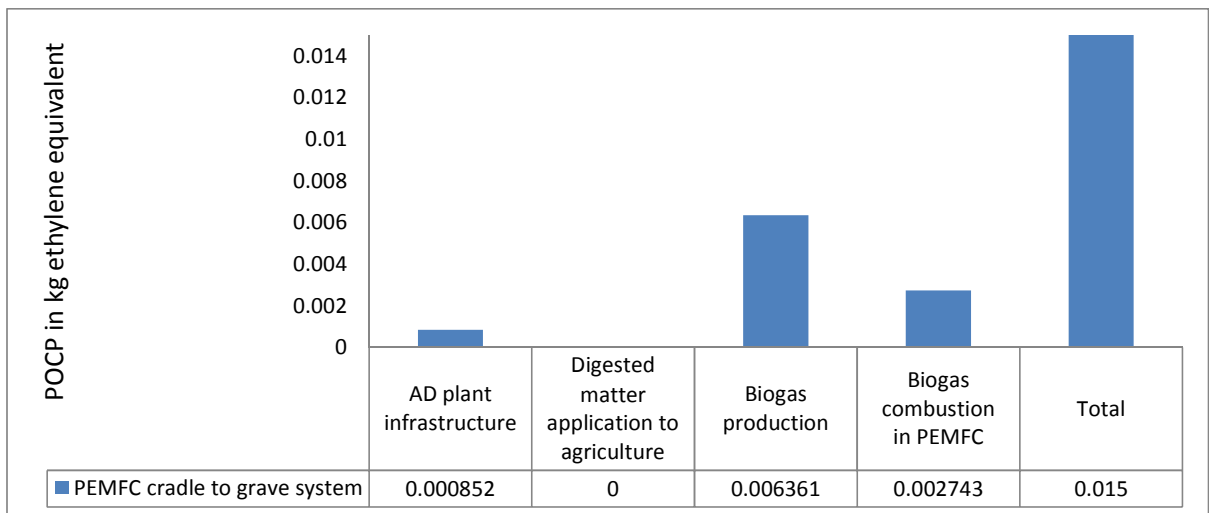
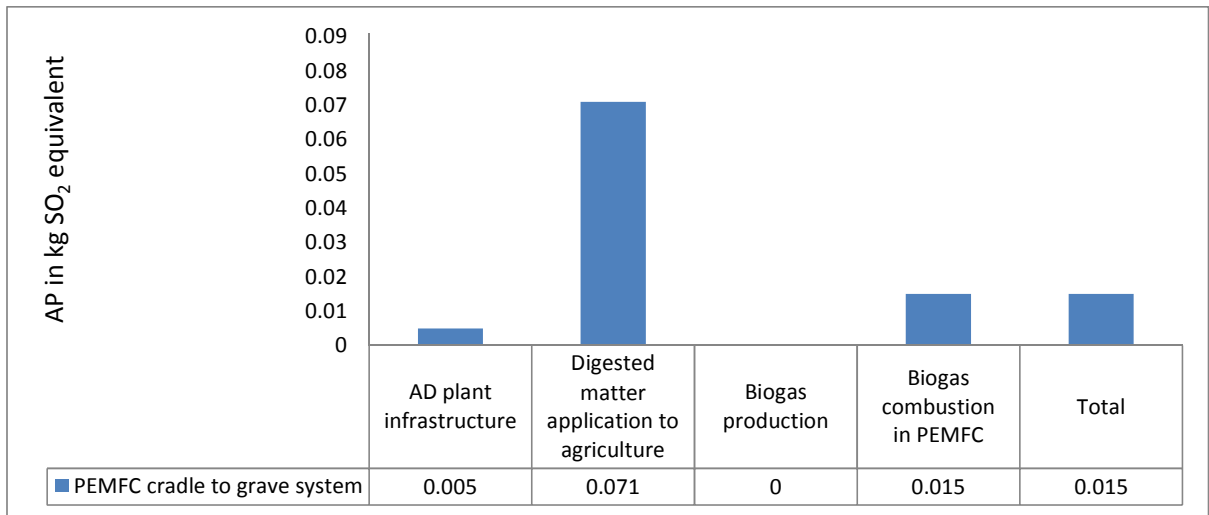
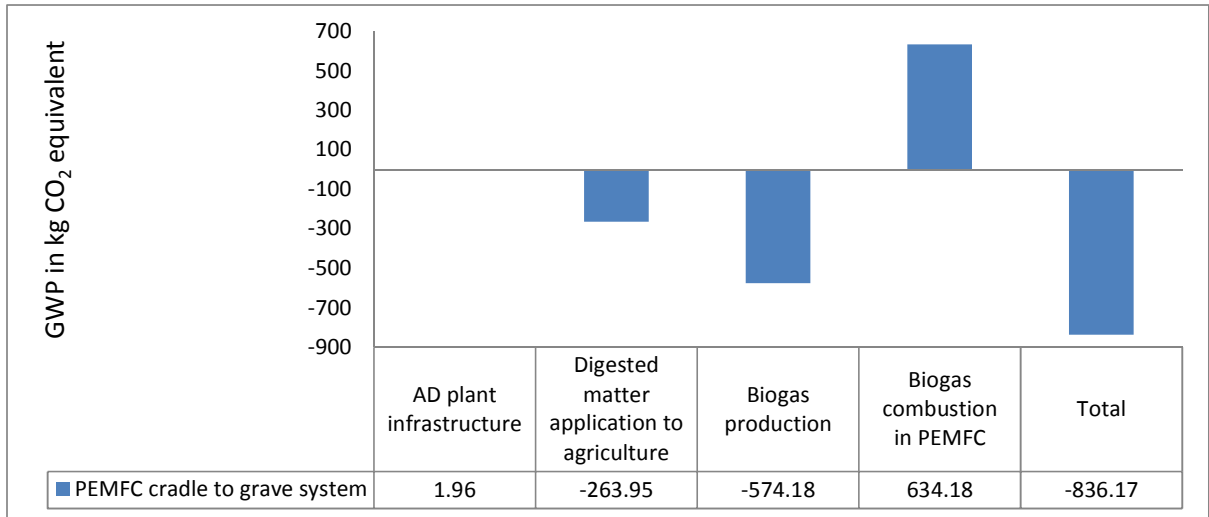


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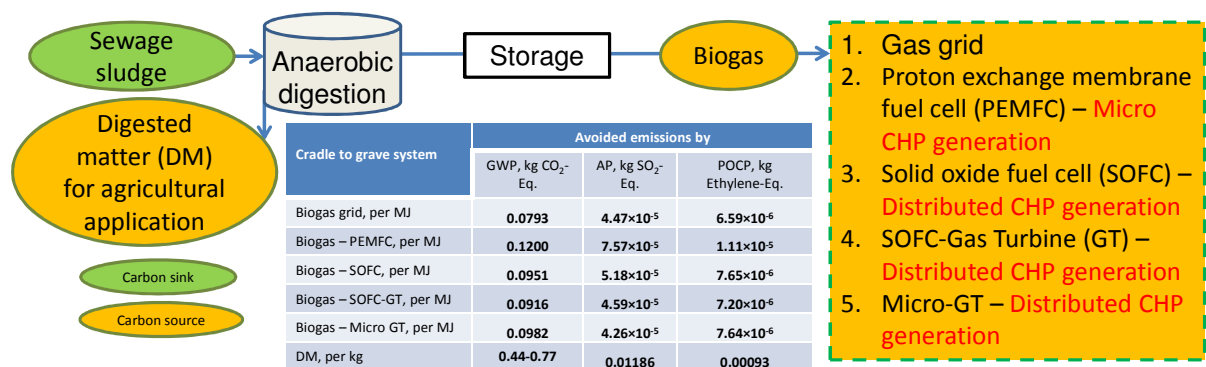


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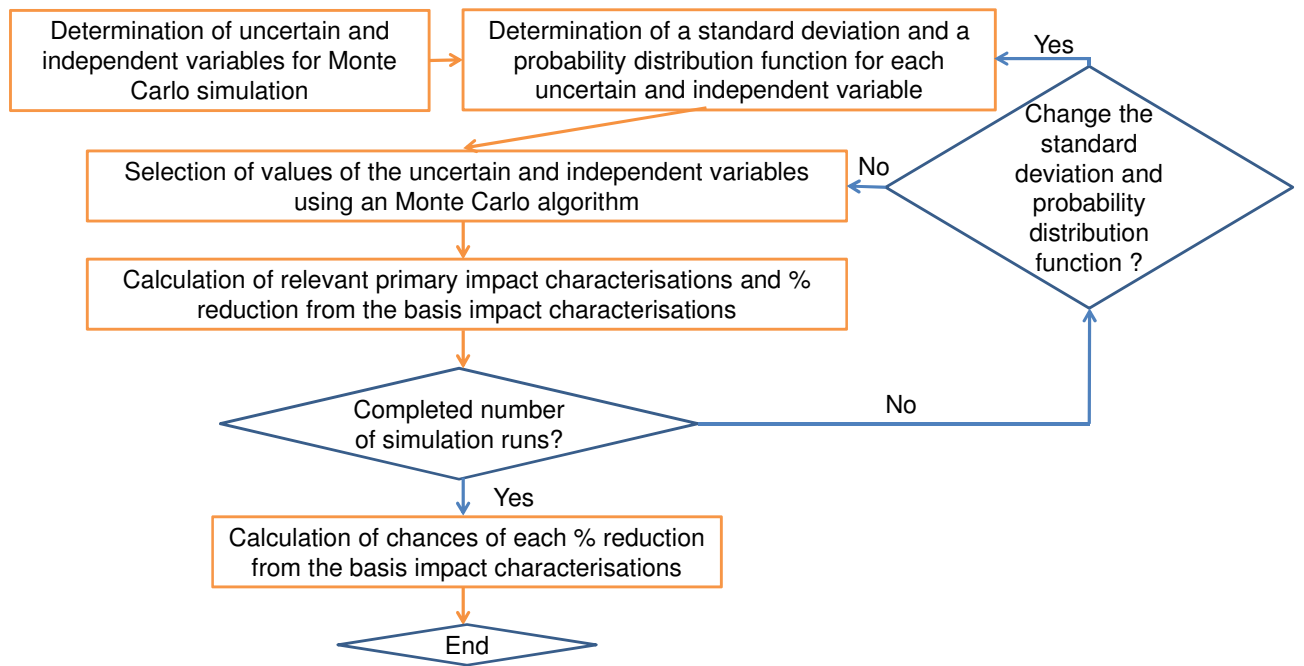


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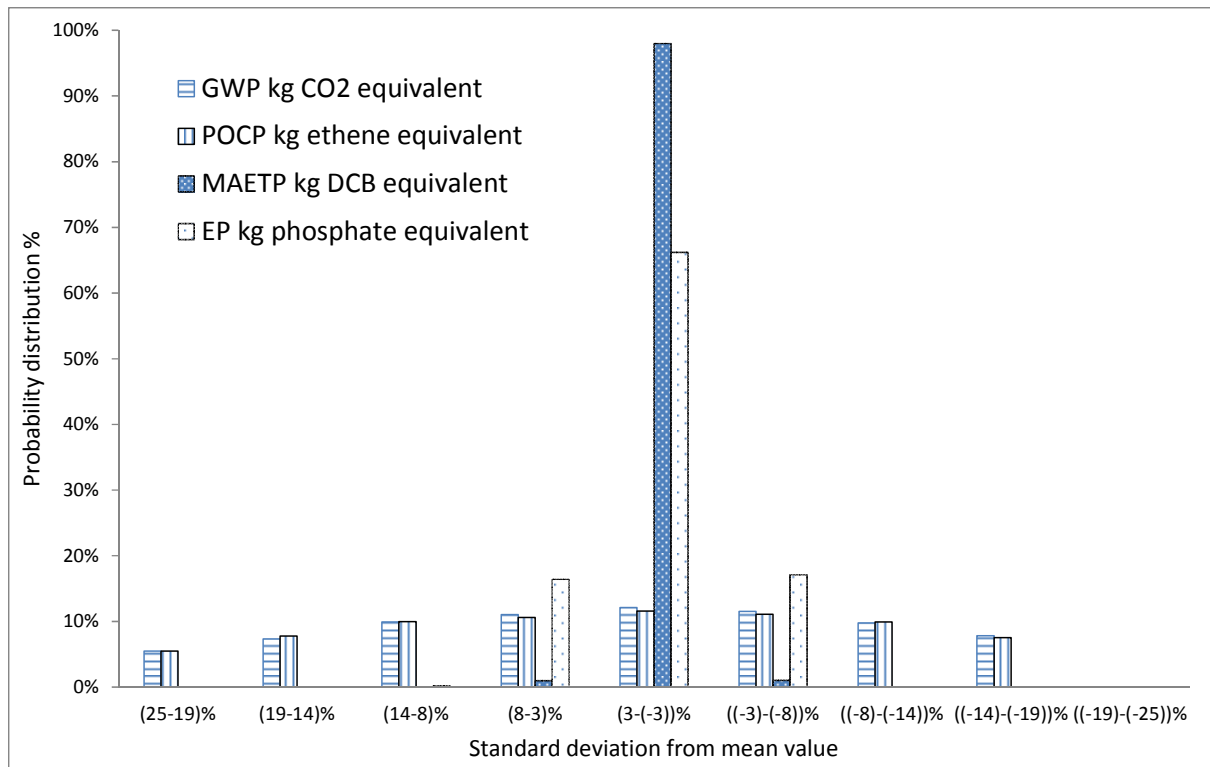


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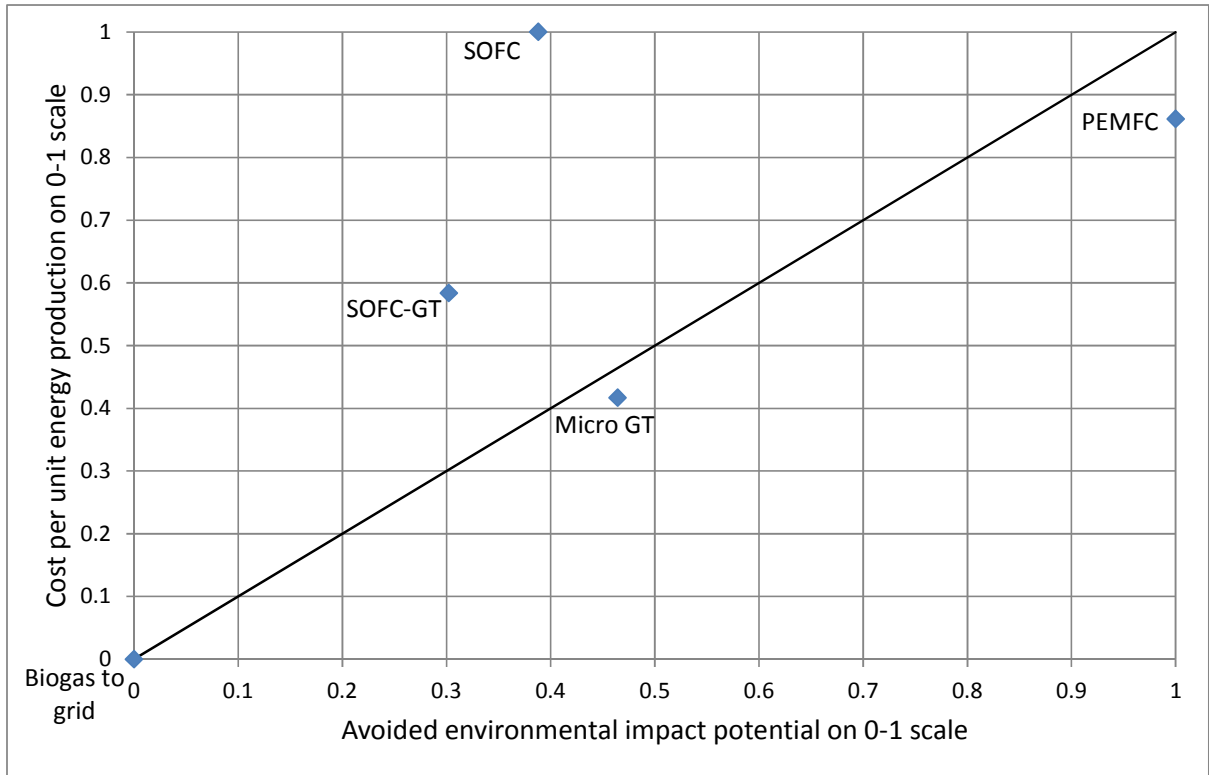


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