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(71) Applicant: **ENERKEM INC.** [CA/CA]; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA).

(72) Inventors: **CRETE, Jean-Pierre**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA). **SAVELYEVA, Xeniya**; 1130 Sherbrooke Street West, Montreal, Québec

H3A 2M8 (CA). **GAGNON, Jérémie**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA). **DE-NOMME, Louis**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA). **BANVILLE, Maxime**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA). **FOUCAULT, Maxime**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA). **CHORNET, Michel**; 1130 Sherbrooke Street West, Montreal, Québec H3A 2M8 (CA).

(74) Agent: **NORTON ROSE FULBRIGHT CANADA S.E.N.C.R.L., S.R.L. / LLP**; 2500-1 Place Ville-Marie, Montreal, Québec H3B 1R1 (CA).

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(54) Title: MAXIMIZING SYNGAS CARBON UTILIZATION AND CONVERSION TO BIOFUEL

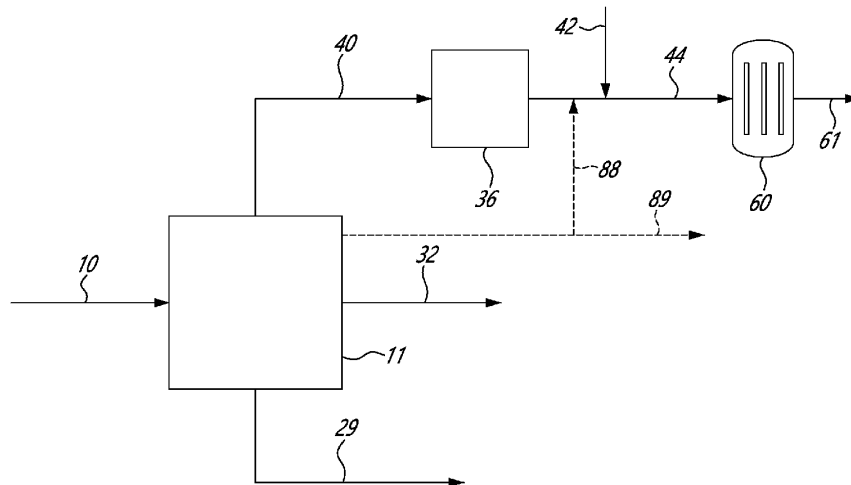


Fig. 1

(57) Abstract: It is provided a process for optimizing syngas carbon utilisation and syngas purity from a varying scrubbed syngas source before feeding into a syngas conversion unit comprising the steps of feeding a scrubbed syngas into a purification unit comprising at least one absorption unit to remove CO₂ from the scrubbed syngas, producing a clean CO+H₂+CO₂ syngas stream and a CO₂ rich stream; and mixing the clean CO+H₂+CO₂ syngas stream with hydrogen producing a balanced syngas stream, wherein the balanced syngas stream meet the stoichiometric ratio and purity requirement of the syngas conversion unit.

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