

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 August 2025 (07.08.2025)



(10) International Publication Number
WO 2025/165917 A1

(51) International Patent Classification:

F23G 5/027 (2006.01) C10G 1/00 (2006.01)
B09B 3/00 (2022.01)

(21) International Application Number:

PCT/US2025/013657

(22) International Filing Date:

29 January 2025 (29.01.2025)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/626,488 29 January 2024 (29.01.2024) US
19/006,106 30 December 2024 (30.12.2024) US

(71) Applicant: NEXUS CIRCULAR LLC [US/US]; 500 Waterfront Drive SW, Atlanta, Georgia 30336 (US).

(72) Inventors: GOLD, Jeffrey W.; c/o Nexus Circular LLC, 500 Waterfront Drive SW, Atlanta, Georgia 30336 (US). CUDNEY, Connor; c/o Nexus Circular LLC, 500 Waterfront Drive SW, Atlanta, Georgia 30336 (US). ENGELHARDT, Sarah; c/o Nexus Circular LLC, 500 Waterfront Drive SW, Atlanta, Georgia 30336 (US). ADAMS, Steven; c/o Nexus Circular LLC, 500 Waterfront Drive SW, Atlanta, Georgia 30336 (US).

(74) Agent: ZIEGELSKI, Morgan, C. et al.; Meunier Carlin & Curfman LLC, 999 Peachtree Street, NE, Suite 1300, Atlanta, Georgia 30309 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UY, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

(54) Title: SYSTEMS AND METHODS FOR MAKING HYDROCARBON COMPOSITIONS DERIVED FROM PYROLYSIS OF POST-CONSUMER AND/OR POST-INDUSTRIAL PLASTICS

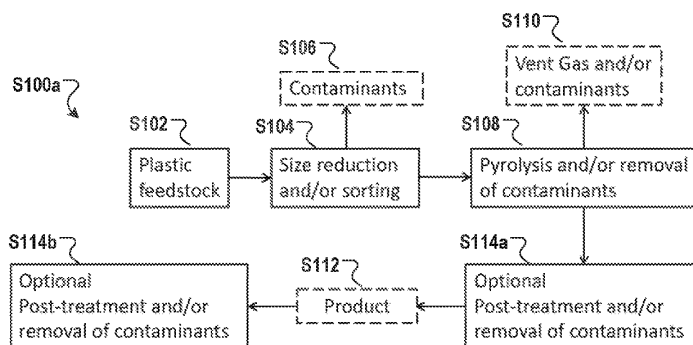


FIG. 1

(57) Abstract: Disclosed herein are systems for pyrolyzing plastic feedstock comprising post-consumer and/or post-industrial plastics. In various implementations, the systems include one or more energy transfer apparatuses configured for receiving the plastic feedstock and applying energy to the plastic feedstock.

WO 2025/165917 A1