

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
05 January 2023 (05.01.2023)



(10) International Publication Number
WO 2023/278531 A1

- (51) **International Patent Classification:**
C10G 3/00 (2006.01) *C10G 65/02* (2006.01)
- (21) **International Application Number:**
PCT/US2022/035459
- (22) **International Filing Date:**
29 June 2022 (29.06.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/216,896 30 June 2021 (30.06.2021) US
- (71) **Applicant: BP CORPORATION NORTH AMERICA INC.** [US/US]; 501 Westlake Park Boulevard, Houston, TX 77079 (US).
- (72) **Inventors: ZIEGELAAR, Paul;** c/o BP Americas Inc., 150 West Warrenville Road, Naperville, IL 60563 (US). **SHABAKER, John;** c/o BP Americas Inc., 150 West Warrenville Road, Naperville, IL 60563 (US). **SCHMITZ, Christopher;** c/o BP Americas Inc., 150 West Warrenville Road, Naperville, IL 60563 (US). **KISPERSKY, Vincent;** c/o BP Americas Inc., 150 West Warrenville Road, Naperville, IL 60563 (US). **WELLS, Nigel, Philip;** c/o BP PLC, 1St. James's Square, SW1Y 4PD London (GB).
- (74) **Agent: SUGGS, James, V.;** McDonnell Boehnen Hulbert & Berghoff LLP, 300 South Wacker Drive, Chicago, IL 60606 (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, 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, ME, MG, MK, MN, 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, UZ, VC, VN, WS, ZA, ZM, ZW.
- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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).

(54) **Title:** CO-PROCESSING OF RENEWABLE FEEDSTOCKS IN PETROLEUM PROCESSING

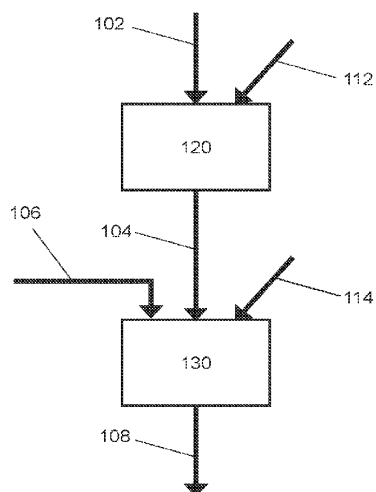


FIG. 1

(57) **Abstract:** The present disclosure relates generally to processes for handling renewable hydrocarbon feeds and conventional hydrocarbon feeds. One aspect of the disclosure provides a process for co-processing a renewable feed and a petroleum feed, the process comprising: hydrotreating the petroleum feed in a first reaction zone, wherein the hydrotreating of the petroleum feed comprises one or more of hydrodesulfurization, hydrodenitrogenation, hydrodemetallization, isomerization, hydrogenation of olefins, and hydrocracking, to form a first reaction zone effluent; conducting the first reaction zone effluent to a second reaction zone; and in the second reaction zone hydrotreating a combination of the first reaction zone effluent and the renewable feed, wherein the hydrotreating of the combination comprises one or more of hydrodeoxygenation, decarboxylation, decarbonylation, isomerization and hydrogenation of olefins of the renewable feed, to form a second reaction zone effluent.

[Continued on next page]

Published:

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