

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 April 2023 (27.04.2023)



(10) International Publication Number
WO 2023/066924 A1

(51) International Patent Classification:
B01D 53/02 (2006.01) **B01D 53/04** (2006.01)
B01D 53/14 (2006.01)

(21) International Application Number:
PCT/EP2022/078952

(22) International Filing Date:
18 October 2022 (18.10.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
21204017.4 21 October 2021 (21.10.2021) EP

(71) Applicant (for all designated States except US): **SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.** [NL/NL]; Carel van Bylandtlaan 30, 2596 HR The Hague (NL).

(71) Applicant (for US only): **SHELL USA, INC.** [US/US]; P.O. BOX 576, Houston, Texas 77001-0576 (US).

(72) Inventors: **KLOKKENBURG, Mark**; Grasweg 31, 1031 HW Amsterdam (NL). **BALAJI, Sayee Prasaad**; Grasweg 31, 1031 HW Amsterdam (NL). **FU, Xiao**; Grasweg 31, 1031 HW Amsterdam (NL).

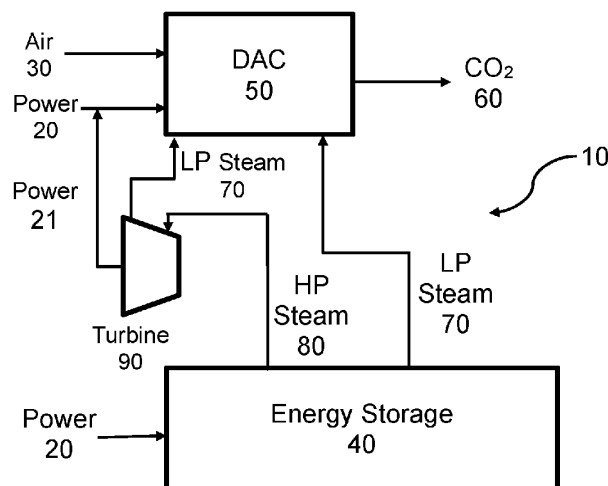
(74) Agent: **SHELL LEGAL SERVICES IP**; PO BOX 384, 2501 CJ The Hague (NL).

(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, 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, CV, 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, 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).

(54) Title: SYSTEMS AND PROCESSES FOR MAINTAINING CONTINUOUS CARBON DIOXIDE CAPTURE

Figure 1



(57) Abstract: This invention provides systems and processes for operating systems that can operate continuously to remove carbon dioxide from an atmosphere under power from a wide range of intermittent renewable energy sources.

[Continued on next page]

Published:

- with international search report (Art. 21(3))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE