

Title (en)

METHOD AND APPARATUS FOR SEQUESTERING CARBON DIOXIDE FROM A SPENT GAS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR SEQUESTRIERUNG VON KOHLENDIOXID AUS EINEM AUSGEGEBENEN GAS

Title (fr)

PROCÉDÉ ET APPAREIL POUR SÉQUESTREER LE DIOXYDE DE CARBONE CONTENU DANS UN GAZ USÉ

Publication

**EP 2956406 A2 20151223 (EN)**

Application

**EP 13875010 A 20131125**

Priority

- US 201313768331 A 20130215
- US 2013071559 W 20131125

Abstract (en)

[origin: WO2014126631A2] A method and apparatus for sequestering carbon dioxide from a waste gas and reusing it as a recycled gas without emissions concerns, including: given a gas source divided into a process gas and a waste gas: mixing the process gas with a hydrocarbon and feeding a resulting feed gas into a reformer for reforming the feed gas and forming a reducing gas; and feeding at least a portion of the waste gas into a carbon dioxide scrubber for removing at least some carbon dioxide from the waste gas and forming a carbon dioxide lean gas that is mixed with the reducing gas. Optionally, the method also includes feeding at least a portion of the waste gas into the carbon dioxide scrubber for removing at least some carbon dioxide from the waste gas and forming a fuel gas after the addition of a hydrocarbon that is fed into the reformer. Optionally, the gas source and the reducing gas are associated with a direct reduction process for converting iron oxide to metallic iron in a reduction furnace that utilizes the reducing gas, optionally after some modification, and produces the gas source.

IPC 8 full level

**C01B 3/24** (2006.01); **C01B 3/38** (2006.01); **C01B 32/40** (2017.01)

CPC (source: EP)

**B01D 53/62** (2013.01); **C21B 13/0073** (2013.01); **B01D 53/047** (2013.01); **B01D 53/0476** (2013.01); **B01D 53/1475** (2013.01); **B01D 53/22** (2013.01); **B01D 2251/306** (2013.01); **B01D 2252/10** (2013.01); **B01D 2252/20484** (2013.01); **B01D 2252/20489** (2013.01); **B01D 2257/504** (2013.01); **B01D 2258/025** (2013.01); **C21B 2100/22** (2017.04); **C21B 2100/282** (2017.04); **C21B 2100/44** (2017.04); **C21B 2100/62** (2017.04); **C21B 2100/64** (2017.04); **Y02C 20/40** (2020.08); **Y02P 10/122** (2015.11); **Y02P 10/134** (2015.11)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2014126631 A2 20140821**; **WO 2014126631 A3 20141016**; AP 2015008570 A0 20150731; AR 094551 A1 20150812; BR 112015016543 A2 20170711; CA 2897000 A1 20140821; CL 2015002189 A1 20151211; CN 104995131 A 20151021; EA 028730 B1 20171229; EA 028730 B9 20180430; EA 201591241 A1 20151230; EP 2956406 A2 20151223; EP 2956406 A4 20161012; JP 2016513004 A 20160512; KR 20150109413 A 20151001; MA 38303 A1 20160930; MX 2015009519 A 20160205; MY 174695 A 20200508; NZ 709347 A 20161125; PE 20151291 A1 20150912; TW 201434743 A 20140916; TW I576313 B 20170401; UA 115161 C2 20170925; ZA 201505281 B 20220831

DOCDB simple family (application)

**US 2013071559 W 20131125**; AP 2015008570 A 20131125; AR P140100194 A 20140122; BR 112015016543 A 20131125; CA 2897000 A 20131125; CL 2015002189 A 20150805; CN 201380073076 A 20131125; EA 201591241 A 20131125; EP 13875010 A 20131125; JP 2015556936 A 20131125; KR 20157022227 A 20131125; MA 38303 A 20150729; MX 2015009519 A 20131125; MY PI2015702124 A 20131125; NZ 70934713 A 20131125; PE 2015001730 A 20131125; TW 103103867 A 20140206; UA A201507572 A 20131125; ZA 201505281 A 20150722