

Search history

Search 1: FT=(gasification* AND (syngas* or syn gas) AND vortex* AND ash* AND screw* and bed) and PD<20171117 (Results 69)

1) Family number: 40468180 (US2007295590A)

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Title: METHODS AND SYSTEMS FOR ENHANCING SOLID FUEL PROPERTIES

Abstract: In embodiments of the present invention improved capabilities are described for a method of cleaning a solid fuel that may provide a starting solid fuel sample data relating to one or more characteristics of a solid fuel to be treated by a solid fuel treatment facility; may provide a desired solid fuel characteristic; may compare the starting solid fuel sample data relating to one or more characteristics to the desired solid fuel characteristic to determine a solid fuel composition delta may determine an operational treatment parameter for the operation of the solid fuel treatment facility to clean the solid fuel based at least in part on the solid fuel composition delta and may monitor contaminants emitted from the solid fuel during treatment of the solid fuel and regulating the operational treatment parameter with respect thereto to create a cleaned solid fuel.

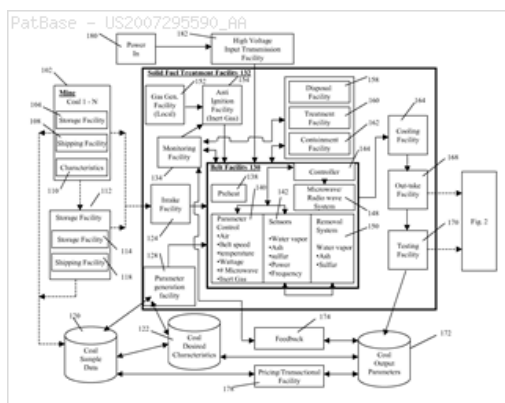
Classifications:

International (IPC 8-9): B65G15/34 C10B57/02 C10L C10L5/00 C10L5/02 C10L5/06 C10L5/10 C10L5/12 C10L5/14 C10L5/16 C10L5/26 C10L5/32 C10L5/44 C10L5/46 C10L9/00 C10L9/08 F23C1/10 G05B1/00 G05B13/00 (Advanced/Invention); C10L5/26 C10L9/00 (Advanced/Non-invention); C10B57/00 C10L5/00 C10L5/40 C10L9/00 F23C1/00 (Core/Invention); C10L (Subclass/Invention)

International (IPC 1-7): C10L5/10 C10L5/44 F23C1/10
CPC: C10L5/44 C10L5/14 C10L5/16 C10L5/28 Y02E50/10 Y02E50/30 C10L5/12 C10L5/32 F23G2900/50206 F23K2201/101 F23K2201/20 F23K2201/505 F23K2900/01002 F23K1/00 C10L5/361 C10L5/363 C10L9/00 C10L9/08 F23K2900/01001 C10L2290/58 C10L2290/60

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US: 201/17 201/17P 209/11 209/11S 44/544 44/544P 44/550 44/550S 44/551 44/553 44/569 44/569P 44/577 44/577S 44/578 44/578S 44/579 44/579S 44/592 44/593 44/593S 44/596 44/608 44/620 44/626 44/904



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Priority:

US20060788297P 20060331	US20060820482P 20060726	US20060828031P 20061003
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Agent(s): SHELSTON IP PTY LTD ; SHELSTON IP ; A J PARK ; AJ PARK ; SMART AND BIGGAR ; MARKS AND CLERK LUXEMBOURG LLP ; NAISMITH ROBERT STEWART ; STRATEGIC PATENTS PC ; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC ; MAZZARESE ROBERT A ; NORTRUP JOHN H ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 41930773 (US2010112242A)

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Title: PROCESSING BIOMASS

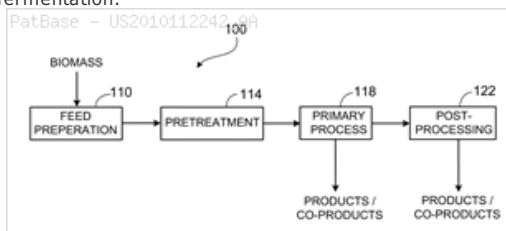
Abstract: Biomass (e.g., plant biomass, animal biomass, and municipal waste biomass) is processed to produce useful products, such as fuels. For example, systems are described that can use feedstock materials, such as cellulosic and/or lignocellulosic materials, to produce ethanol and/or butanol, e.g., by fermentation.

Classifications:

International (IPC 8-9): A23K1/00 A23K1/12 A23K1/14 A23K3/00 B01J19/08 B09B3/00 B09B5/00 B27K5/00 C01B3/32 C02F3/30 C07D307/50 C07H1/00 C08B1/00 C08B16/00 C08H C08H5/04 C08H7/00 C08H8/00 C08J C08J3/12 C08J3/20 C08J3/28 C08J7/12 C08L C08L1/02 C08L1/08 C08L101/16 C08L97/02 C10B53/02 C10G C10G1/00 C10G15/00 C10G15/10 C10G3/00 C10G32/00 C10G32/04 C10G49/12 C10L C10L1/02 C10L1/04 C10L3/00 C10L5/44 C12M1/00 C12M1/107 C12M1/33 C12N1/10 C12N1/12 C12N9/24 C12P C12P1/00 C12P13/00 C12P17/04 C12P19/00 C12P19/02 C12P19/14 C12P21/00 C12P3/00 C12P5/00 C12P5/02 C12P7/02 C12P7/04 C12P7/06 C12P7/08 C12P7/10 C12P7/14 C12P7/16 C12P7/40 C12P7/42 C12P7/46 C12P7/52 C12P7/56 C12P7/64 C13K1/00 C13K1/02 D21B1/00 D21B1/02 D21B1/04 D21B1/10 D21C1/00 D21C1/02 D21C1/04 D21C1/06 D21C1/10 D21C3/04 D21C5/00 D21H11/08 F01K13/00 F01K13/02 F01K21/00 F01K7/16 F01K9/00 F22B1/00 (Advanced/Invention); C02F11/04 C08H7/00 C08J3/28 C08L97/02 C12M1/107 C12N13/00 C12N9/00 C12P7/10 C12P7/16 (Advanced/Non-invention); C08H8/00 C08J3/28 C08L1/00 C08L97/00 C10G1/00 C10L1/00 C10L5/40 (Core/Invention); C08H C08J C08L (Subclass/Invention)

International (IPC 1-7): C08H5/04 C08J3/28 C08L1/02 C08L97/02 C10G1/00 C10L1/02 C10L5/44

CPC: C10G1/00 C12M21/04 C12P7/04 C12P7/16 C12P19/14 C10L1/02 C08L2666/02 C10G3/00 C10G15/00 C10G32/00 C10G49/12 C10G2300/1014 C10L5/44 C12M21/12 C12M45/00 C12M45/20 C12P3/00 C12P5/00 C12P7/10 Y02E50/32 C12P7/14 Y02E50/14 Y02E50/343 F01K7/16 F01K9/00 F01K13/02 C10L2200/0469 C10L2290/26 C10L2290/36 C10L2250/04 C12N9/2405 C12P2201/00 Y02E50/17 Y02P30/20 D21B1/10 C12P19/02 C12P7/02 D21H11/08 C12P2203/00 F22B1/00 C08H8/00 C08L1/02 C08L97/02 C10G2300/1003 C12P7/54 Y02A40/818 Y02E50/10 Y02E50/16 Y02E50/30



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Family:

Publication number	Publication date	Application number	Application date
AP200904863 A0	20090630	AP20090004863	20071026
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Probable Assignee: XYLECO INC

Assignee(s): (std): GREEK LUCK CORP US ; KSILEKO INK ; KSILKO INK ; MARSHALL MEDOFF ; MEDOFF MARSHALL ; XYLECO INC

Assignee(s): XYLECO INCL-271 SALEM STREETWOBURNMA01801US ; XYLECO INCL - 271 SALEM STREETWOBURNMA01801US ; XYLECO INC271 SALEM STREET, UNIT LWOBURNMA01801US ; GREEK LUCK CORP

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Inventor(s): XYLECO INC ; MEDOFF MARSCHALL ; MEDOFF MARSHALLUS

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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 43929065 (WO08011213A2)

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Title: A LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid waste (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

Classifications:

International (IPC 8-9): B09B3/00 C02F11/10 C10J C10J1/207

C10J3/00 C10J3/20 C10J3/72 C10K3/00 F23G5/027 F23G5/08

F23G5/12 F23K3/14 (Advanced/Invention);

C10J3/00 F23G5/08 (Core/Invention);

C10J (Subclass/Invention)

International (IPC 1-7): C10J3/00 F23G5/12

CPC: B09B3/00 C10J3/00 C10K3/00 C10J3/20 C10J3/482 Y02E20/18

Y02E50/32 Y02W10/37 Y02P20/129 Y02P20/13 C10J2300/0983

C10J2300/165 C10J2300/1693 C10K1/101 C10K1/12 C10K1/122

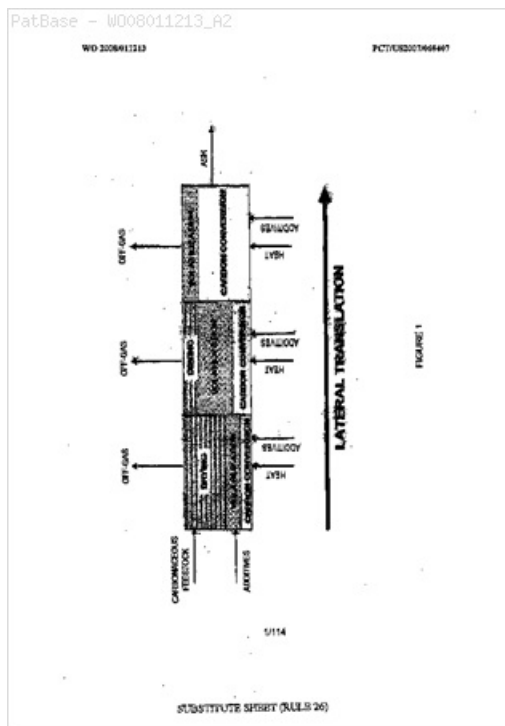
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C10J2300/0946 C10J2300/1223 C10J2300/1238 C10J2300/1634

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European: B09B3/00 C10J3/00 C10J3/20 C10J3/46B C10J3/48B
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 M10J300/16P M10J300/16V R23G204/201 R23G209/262 R23J219/70
 Y02E20/12 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: PLASCOENERGY IP HOLDINGS

Assignee(s): (std): PLASCO ENERGY GROUP INC ; PLASCO ENERGY IP HOLDING S L ; PLASCOENERGY IP HOLDINGS ; PLASCOENERGY IP HOLDINGS S L ; PLASCOENERGY IP HOLDINGS S L S ; PLASCOENERGY IP HOLDINGS S L B ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH ; TSANGARIS ANDREAS ; SWAIN MARGARET ; PLASCOENERGY IP HOLDINGS SLB

Assignee(s): PLASCOENERGY IP HOLDINGS SLEN BRH ; PLASCOENERGY IP HOLDINGS SL BILBAO SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS SL ; PLASCOENERGY IP HOLDINGS SL BILBAO ; PLASCOENERGY IP HOLDINGS S L SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS S L EN BRH ; PLASCOENERGY IP HOLDINGS S L BILBAO

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Agent(s):

GRIFFITH HACK; PAGET HUGH CHARLES EDWARD ET AL; REINHOLD COHN AND PARTNERS; LORENZ DAVID J ET AL

Designated states:

AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

4) Family number: 43952862 (US2009312537A)

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Title: CARBOHYDRATES

Abstract: Carbohydrates having functional groups, such as carboxylic acid groups and methods of making such carbohydrates.

Classifications:

International (IPC 8-9): A01H5/00 A23J1/16 A23K1/00 A23K1/06 A23K1/12 A23K1/14 A23K1/16 A23K1/165 A23K1/18 A23K1/20 A23K10/00 A23K10/12 A23K10/30 A23K10/32 A23K10/33 A23K10/37 A23K20/00 A23K20/163 A23K20/189 A23K3/03 A23K40/00 A23K40/10 A23K50/00 A23K50/10 A23K50/80 A23L1/025 A23L1/09 A23L1/10 A23L1/29 A23L19/00 A23L29/30 A23L33/00 A23L5/00 A23L5/30 A23L7/10 A61K31/191 A61K31/439 A61K31/475 A61K36/00 A61K36/899 A61K38/14 A61K38/48 A61K41/00 A61K8/97 A61P31/04 A61Q19/00 B01D39/04 B01D39/18 B01J19/08 B01J19/10 B01J19/12 B01J20/24 C07C1/20 C07H1/00 C07K2/00 C08B1/00 C08B15/04 C08B15/06 C08B3/00 C08B30/02 C08B37/00 C08B37/14 C08B5/04 C08H C08H1/00 C08H5/04 C08H8/00 C08J11/16 C08J3/28 C08J7/18 C08L1/02 C08L5/14 C08L97/02 C10G1/00 C10L1/02 C10L5/44 C12N1/14 C12N9/00 C12N9/04 C12N9/10 C12N9/20 C12N9/26 C12N9/34 C12N9/42 C12N9/56 C12P C12P1/00 C12P1/02 C12P1/04 C12P13/00 C12P13/04 C12P13/06 C12P13/08 C12P13/12 C12P13/14 C12P13/20 C12P13/22 C12P13/24 C12P19/00 C12P19/02 C12P19/04 C12P19/14 C12P19/44 C12P19/52 C12P19/54 C12P19/62 C12P19/64 C12P29/00 C12P7/02 C12P7/06 C12P7/08 C12P7/10 C12P7/16 C12P7/40 C12P7/42 C12P7/46 C12P7/52 C12P7/56 C12P7/62 C13K1/00 C13K1/02 C13K13/00 D21C3/02 D21C5/00 D21C9/00 G01N23/00 G01N33/00 G01N33/68 G21G5/00 (Advanced/Invention); A23K50/30 A23K50/40 A23K50/75 A23L3/26 B01J19/08 B60H1/00 C07C4/00 C08B1/00 C08H8/00 C08L97/02 C12N9/42 C12N9/44 C12P1/00 C12P19/00 C12P7/40 C12P7/42 C12P7/62 C12R1/885 D21C5/00 H01J37/00 H01J37/06 H01J37/317 (Advanced/Non-invention); A23K1/00 B01J19/00 C07H1/00 C08B1/00 C08B15/00 C08B3/00 C08B37/00 C08H8/00 C08H99/00 C08J11/00 C08J3/00 C10L5/00 C10L5/40 C12P19/00 C12P5/00 C13K1/00 D21C3/00 (Core/Invention); A23K B01J C08B C08H C08J C10L C12P C13K D21C (Subclass/Invention)

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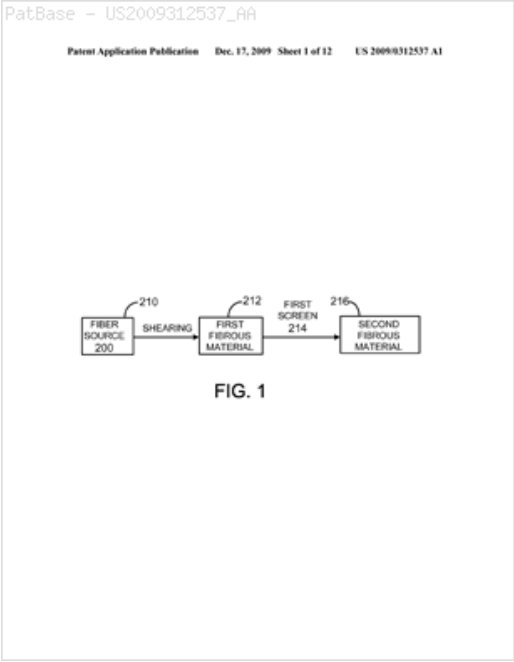
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Priority:

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Probable Assignee: XYLECO INC

Assignee(s): (std): KSILEKO INK ; MEDOFF MARSHALL ; XYLECO INC

Assignee(s): XYLECO INC WAKEFIELD ; XYLECO INC WOBURN

Inventor(s): (std): MEDOFF MARSHALL ; MARSHALL MEDOFF

Inventor(s): MEDOFF MARSHALL BROOKLINE

Agent(s): SPRUSON AND FERGUSON; SMART AND BIGGAR; STOLMAR AND PARTNER PATENTANWAELTE PARTG MBB; SIMPSON MARK GEOFFREY; POTTER CLARKSON LLP; VON FUENER NICOLAI; DE ELZABURU ALBERTO; REINHOLD COHN AND PARTNERS; EVROMARKPAT; ETAZH 3 EVROMARKPAT; FULYA SUEMERALP; XYLECO INC; XYLECO INC CELIA LEBER; LEBER PATENT LAW PC; CELIA H; WILMER CUTLER PICKERING HALE AND DORR LLP; BABINEAU JAMES W ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

5) Family number: 47431235 (US2011036014A)

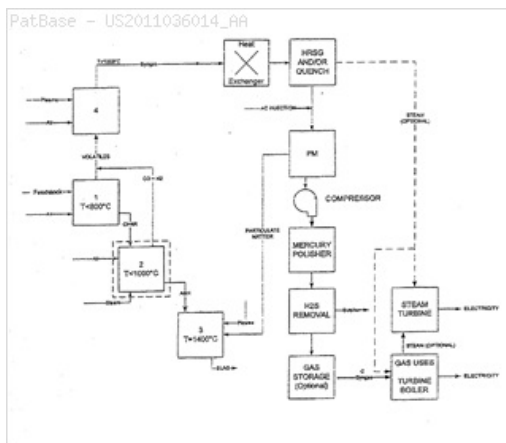
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Title: GASIFICATION SYSTEM WITH PROCESSED FEEDSTOCK/CHAR CONVERSION AND GAS REFORMULATION

Abstract: The invention provides a system designed for the complete conversion of carbonaceous feedstock into syngas and slag. The system comprises a primary chamber for the volatilization of feedstock generating a primary chamber gas (an offgas); a secondary chamber for the further conversion of processed feedstock to a secondary chamber gas (a syngas) and a residue; a gas-reformulating zone for processing gas generated within one or more of the chambers; and a melting chamber for vitrifying residue. The primary chamber comprises direct or indirect feedstock additive capabilities in order to adjust the carbon content of the feedstock. The system also comprises a control system for use with the gasification system to monitor and regulate the different stages of the process to ensure the efficient and complete conversion of the carbonaceous feedstock into a syngas product.

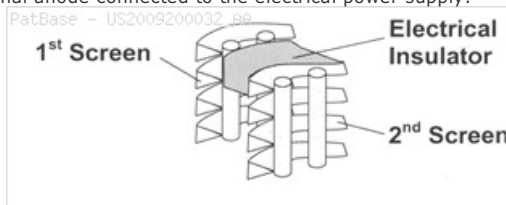
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US: 48/197FM 48/61 48/62.00RP 48/62R



Publication number	Publication date	Application number	Application date
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Priority:

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Inventor(s): TODD FORET

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Abstract: The present invention provides a control system for the conversion of carbonaceous feedstock into a gas. In particular, the control system is designed to be configurable for use in controlling one or more processes implemented in, and/or by, a gasification system for the conversion of such feedstock into a gas, which may be used for one or more downstream applications. Gasification processes controllable by different embodiments of the disclosed control system may include in various combinations, a converter, a residue conditioner, a recuperator and/or heat exchanger system, one or more gas conditioners, a gas homogenization system and one or more downstream applications. The control system operatively controls various local, regional and/or global processes related to the overall gasification process, and thereby adjusts various control parameters thereof adapted to affect these processes for a selected result. Various sensing elements and response elements are therefore distributed throughout the controlled system and used to acquire various process, reactant and/or product characteristics, compare these characteristics to suitable ranges of such characteristics conducive to achieving the desired result, and respond by implementing changes to in one or more of the ongoing processes via one or more controllable process devices.

International (IPC 8-9): B01119/00 C03B5/00 C03B5/02 C10B53/00
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G05B21/00 G11B5/00 (Advanced/Invention);
B01119/00 C03B5/00 C10B53/00 C10J3/00 C10J3/02 G01N31/00
G05B21/00 G11B5/00 (Core/Invention)

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Assignee(s): PLASCOENERGY IP HOLDINGS SL ; PLASCOENERGY IP HOLDINGS SL BILBAO ; PLASCOENERGY IP HOLDINGS SL BILBAO SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS S L BILBAO

Inventor(s): (std): CAMPBELL KENNETH CRAIG ; FEASBY DOUGLAS MICHAEL ; MARCEAU PASCALE BONNIE ; MCLEAN ALISDAIR ALAN ; SWAIN MARGARET ; TSANGARIS ANDREAS ; WAGLER THOMAS EDWARD ; ZOU XIAOPING ; MC LEAN ALISDAIR ALAN

Inventor(s): XIAOPING ZOU ; THOMAS EDWARD WAGLER ; PASCALE BONNIE MARCEAU ; MARGARET SWAIN ; KENNETH CRAIG CAMPBELL ; DOUGLAS MICHAEL FEASBY ; ALISDAIR ALAN MCLEAN ; ANDREAS TSANGARIS

Agent(s): GRIFFITH HACK; CLEGG RICHARD IAN ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: A LATERAL TRANSFER SYSTEM

Abstract: A modular lateral transfer system for use in a horizontally oriented processing chamber is provided. Each module has the ability to deliver process gas in addition to moving the reactant material through the horizontally oriented processing chamber. The modular design enables the operator to remove and replace a module of the system, thereby substantially minimizing the downtime of the chamber required during servicing.

Classifications:

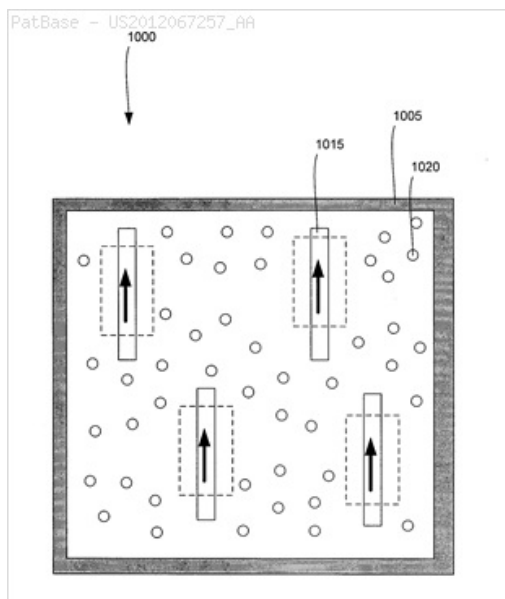
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International (IPC 1-7): B01J4/00 F27D3/12 F27D3/16

CPC: C10J3/18 C10J2300/0956 C10J2300/1869 C10J2300/1884 B09B3/00 C10J3/34 C10J3/84 C10J2200/15 C10K3/001 C10J3/40 C10J3/30 Y02E20/12 C10J3/00 C10J2200/09 C10J2300/0946 C10J2300/1238 C10J2300/1618 C10J2300/1634 C10K1/02 C10K1/026 F23G5/0276 F23G5/085 F23G5/46 F23G5/50 F23G2201/301 F23G2201/304 F23G2201/701 F23G2202/104 F23G2204/201 F23G2206/10 F23G2900/50204 F23J2217/40 C10B7/00 C10J3/20 F23H7/00 F27D15/0213 F27D3/12 F27D3/16

European: C10B7/00 C10J3/00 C10J3/20 C10K1/02 C10K1/02F F23G5/027C F23G5/08C F23G5/46 F23G5/50 F23H7/00 F27D15/02B1 F27D3/12 F27D3/16 M10J200/09 M10J300/09D14 M10J300/12H2 M10J300/16B12 M10J300/16D2D R23G201/301 R23G201/304 R23G201/701 R23G202/104 R23G204/201 R23G206/10 R23G900/50204 R23J217/40

US: 110/101.00RP 110/101R 422/186.04 422/186.040P



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Priority:

US20100309092P 20100301 US20100309175P 20100301 EP20110750135 20110301
WO2011CA50123 20110301 US20110263326 20110301 US20110263330 20110301
WO2011CA50124 20110301

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; PLASCO ENERGY GROUP INC ; PLASCOENERGY IP HOLDINGS S L ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH ; TSANGARIS ANDREAS ; PLASCOENERGY IP HOLDINGS SLB

Assignee(s): TSANGARIS ANDREAS248 MADHU CRESCENTOTTAWAO1K2C 4J3CA ; PLASCOENERGY IP HOLDINGS SL BILBAO SCHAFFHAUSEN ; PLASCOENERGY IP HOLDINGS SL BILBAO SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS SL ; PLASCO ENERGY GROUP INC400 - 1000 INNOVATION DRIVEKANATAO1K2K 3E7CA ; GRAVELLE ROBERT A701 ALMA STREETCORNWALLO1K6J 5C8CA ; FEASBY DOUGLAS MICHAEL5 HIGHVIEW COURTSHERWOOD PARKA1T8A 5K8CA ; PLASCO CONVERSION TECHNOLOGIES INC ; GRAVELLE ROBERT A ; PLASCOENERGY IP HOLDINGS ; NORTH SHORE POWER GROUP INC ; BACON MARC72 HARTSMERE DR.STITTSVILLEO1K2S 2B7CA ; CANADIAN WATER PROJECTS INC ; FEASBY DOUGLAS MICHAEL

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS ; ANDREAS TSANGARIS ; MARC BACON ; GRAVELLE ROBERT A ; FEASBY DOUGLAS MICHAEL ; DOUGLAS MICHAEL FEASBY ; ROBERT A GRAVELLE ; MICHAEL FEASBY DOUGLAS ; DOUGLAS MICHAEL PHISBY ; ROBERT A GRAVELLE A ; FESBY DOUGLAS MICHAEL

Inventor(s): BACON MARC72 HARTSMERE DR.STITTSVILLEO1K2S 2B7CA ; TSANGARIS ANDREAS248 MADHU CRESCENTOTTAWAO1K2C 4J3CA ; GRAVELLE ROBERT A701 ALMA STREETCORNWALLO1K6J 5C8CA ; FEASBY DOUGLAS MICHAEL5 HIGHVIEW COURTSHERWOOD PARKA1T8A 5K8CA

Agent(s): LESICAR MURRAY TRENTO; LESICAR MAYNARD ANDREWS PTY LTD; MBM INTELLECTUAL PROPERTY LAW LLP; BOSCH JEHL PATENTANWALTSGESELLSCHAFT MBH; CLEGG RICHARD IAN; CHAN TANG AND KWOK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

9) Family number: 34083911 (US2007006528A)

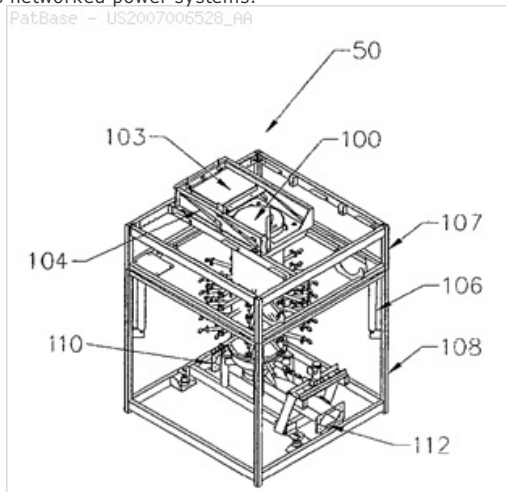
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Title: METHOD AND APPARATUS FOR AUTOMATED, MODULAR, BIOMASS POWER GENERATION

Abstract: Method and apparatus for generating a low tar, renewable fuel gas from biomass and using it in other energy conversion devices, many of which were designed for use with gaseous and liquid fossil fuels. An automated, downdraft gasifier incorporates extensive air injection into the char bed to maintain the conditions that promote the destruction of residual tars. The resulting fuel gas and entrained char and ash are cooled in a special heat exchanger, and then continuously cleaned in a filter prior to usage in standalone as well as networked power systems.

Classifications:

International (IPC 8-9): B01D29/00 B01D29/27 B01D46/00 B01D46/42 B01J7/00 C01B3/24 C01B3/36 C02F1/00 C10B51/00 C10B53/00 C10J1/207 C10J3/00 C10J3/20 C10J3/26 C10J3/30 C10J3/34 C10J3/40 C10J3/46 C10J3/66 C10J3/68 C10J3/72 C10K3/06 F02C3/28 F02C7/22 F02G1/055 H01M8/12 (Advanced/Invention); C01B3/02 H01M8/06 (Advanced/Non-invention); B01D29/00 C02F1/00 C10B51/00 C10J3/00 C10J3/46 F02C3/26 F02C7/22 F02G1/00 H01M8/12 (Core/Invention); C01B3/00 H01M8/06 (Core/Non-invention) **IPC:** C10J3/66 B01D29/27 B01D46/0072 B01D46/0095 C10J3/20 C10J3/26 C10J3/30 C10J3/40 C10J3/723 C10J2200/09 C10J2300/0903 C10J2300/0916 C10J2300/092 C10J2300/0946 C10J2300/0956 C10J2200/152 B01D29/70 **European:** B01D29/27 B01D46/00R50 B01D46/00S60 C10J3/20 C10J3/26 C10J3/30 C10J3/40 C10J3/66 C10J3/72C M10J200/09 M10J300/09B M10J300/09D14 M10J300/09D2 M10J300/09D2B M10J300/09F2 Y02E20/18 Y02E50/12 **US:** 210/170.01 210/170.010P 423/650 48/197.00R 48/197.00RP 48/197R 48/202 48/210 48/61 48/87 48/87P 55/283 55/299 55/300 55/304 55/304S 95/20 95/278 95/278S 95/282 95/282P 96/397 96/421



Family:

Publication number	Publication date	Application number	Application date
AU2006263659 AA	20070104	AU20060263659	20060628
AU2006263659 BB	20100930	AU20060263659	20060628

AU2011200022 AA	20110127	AU20110200022	20110104
CA2613427 AA	20071221	CA20062613427	20060628
CA2613427 C	20140408	CA20062613427	20060628
CA2833506 AA	20070104	CA20062833506	20060628
CA2833506 C	20160503	CA20062833506	20060628
CN101558133 A	20091014	CN200680031483	20060628
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JP2009501807 T2	20090122	JP20080519575T	20060628
JP5086253 B2	20121128	JP20080519575T	20060628
US2007006528 AA	20070111	US20060427231	20060628
US2007017859 AA	20070125	US20060427221	20060628
US2011120312 AA	20110526	US20100946696	20101115
US2011232191 AA	20110929	US20110028090	20110215
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WO07002844 A2	20070104	WO2006US25414	20060628
WO07002844 A3	20090416	WO2006US25414	20060628
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Priority:

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US20060427221	20060628	US20060427231	20060628	EP20060785864	20060628
CA20062833506	20060628	WO2006US25414	20060628	US20100946696	20101115
AU20110200022	20110104	US20110028090	20110215	CA20132613427	20131128

Probable Assignee: COMMUNITY POWER CORP

Assignee(s): (std): BROWNE III KINGSBURY ; BROWNE KINGSBURY ; COMMUNITY POWER CORP ; WALKER MICHAEL ; DUNCAN DUSTIN ; FIELDS MICHAEL ; LILLEY ARTHUR ; DIEBOLD JAMES P ; WALT ROBB RAY ; STEELE JOHN ; SMITH TREVOR ; AFOGNAK NATIVE CORP

Assignee(s): ALLEGRO BIODIESEL CORP ; DATALASE LTD ; COMMUNITY POWER CORP ENGLEWOOD ; TRITON SYNTECH INVESTMENTS LLC ; DINWOODIE MERSERVEY FAMILY LIVING TRUST

Inventor(s): (std): BROWNE KINGSBURY III ; BROWNE III KINGSBURY ; KINGSBURY BROWNE ; MICHAEL FIELDS ; MICHAEL WALKER ; RAY WALT ROBB ; WALT ROBB ; WALT ROBB R ; WALT ROBB RAY ; WALKER MICHAEL ; STEELE JOHN ; LILLEY ARTHUR ; FIELDS MICHAEL ; DUNCAN DUSTIN ; DIEBOLD JAMES P ; BROWNE KINGSBURY ; SMITH TREVOR ; JOHN STEELE ; DUSTIN DUNCAN ; ARTHUR LILLEY

Inventor(s): DIEBOLD JAMES ; TREVOR SMITH ; WALT ROBB RAY AURORA ; ROBB RAY WALT ; SMITH TREVOR LAKEWOOD ; STEELE JOHN AURORA ; WALKER MICHAEL BROOMFIELD ; LILLEY ARTHUR FINLEYVILLE ; BROWNE KINGSBURY GOLDEN ; DIEBOLD JAMES P LAKEWOOD ; DUNCAN DUSTIN LITTLETON ; FIELDS MICHAEL ARVADA ; JAMES P DIEBOLD

Agent(s): DAVIES COLLISON CAVE ; DAVIES COLLISON CAVE PTY LTD ; MCCARTHY TETRAULT LLP ; HERZOG FIESSER AND PARTNER PATENTANWALTE PARTG MBB ; EVENS PAUL JONATHAN ET AL ; EVENS PAUL JONATHAN ; VEIGA MIKEL ; TOWNSEND AND TOWNSEND AND CREW LLP ; KILPATRICK TOWNSEND AND STOCKTON LLP ; DAVIS WRIGHT TREMAINE LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

10) Family number: 40746920 (US2009119990A)

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Title: METHODS AND APPARATUS FOR SOLID CARBONACEOUS MATERIALS SYNTHESIS GAS GENERATION

Abstract: Methods and apparatus may permit the generation of consistent output synthesis gas from highly variable input feedstock solids carbonaceous materials. A stoichiometric objectivistic chemic environment may be established to stoichiometrically control carbon content in a solid carbonaceous materials gasifier system. Processing of carbonaceous materials may include dominative pyrolytic decomposition and multiple coil carbonaceous reformation. Dynamically adjustable process determinative parameters may be utilized to refine processing, including process utilization of negatively electrostatically enhanced water species, process utilization of flue gas (9), and adjustment of process flow rate characteristics. Recycling may be employed for internal reuse of process materials, including recycled negatively electrostatically enhanced water species, recycled flue gas (9), and recycled contaminants. Synthesis gas generation may involve predetermining a desired synthesis gas for output and creating high yields of such a predetermined desired synthesis gas.

Classifications:

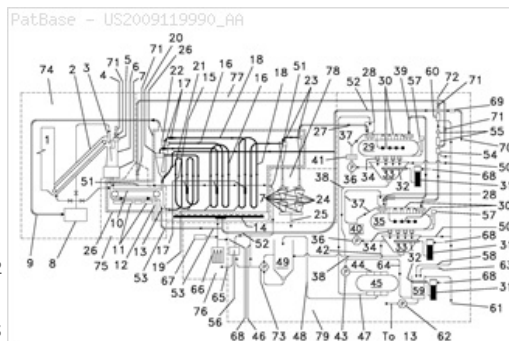
International (IPC 8-9): B01J19/00 B01J7/00 C01B C01B3/02 C02F1/00 C02F1/32 C02F1/52 C02F1/72 C10B1/10 C10B47/18 C10J1/207 C10J3/00 C10J3/20 C10J3/46 C10J3/48 C10J3/66 C10J3/72 C10J3/78 C10K1/10 C10K3/00 (Advanced/Invention); C10B47/18 C10J3/20 (Advanced/Non-invention); C01B (Subclass/Invention)

International (IPC 1-7): C10B47/18

CPC: C10J2300/0903 C10J2300/0916 C10J2300/093 C10J2300/0943 C10J2300/0946 C10K1/101 Y02E50/32 C10J3/66 C02F1/32 C10B1/10 Y02P20/145

European: C10J3/66 C10K1/10B M10J300/09B M10J300/09D12 M10J300/09D14 M10J300/09D2 M10J300/09D6 Y02E20/18 Y02E50/32

US: 201/32 202/106 202/108 202/110 202/117 210/719 210/748.01 210/748.01S 210/748.17 210/758 210/759 250/429 250/435 252/373 48/101 48/119 48/119S 48/127.5 48/127.500S 48/197.00AS 48/197.00R 48/197.00RS 48/197A 48/197FM 48/197R 48/202 48/204 48/204S 48/209 48/209S 48/210 48/210S 48/211 48/211S 48/61 48/61P 48/62.00RP 48/62R 48/78 48/78P 48/89 48/89P



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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AU20130206820	20130711	US20130056854	20131017		

Probable Assignee: THERMO TECHNOLOGIES LLC

Assignee(s): (std): ABRAMOV GRIGORI A ; JOHNSON DENNIS E J ; THERMO TECHNOLOGIES LLC ; WILEY MARCUS A ; KLEINKE RICHARD A ; THERMO TECH LLC

Assignee(s): PUBLIC FINANCE AUTHORITY ; THERMO CONVERSIONS LLC ; JOHNSON DENNIS EJ ; HUNTINGTON NATIONAL BANK ; JOHNSON DENNIS E

Inventor(s): (std): ABRAMOV GRIGORI A ; GRIGORI A ABRAMOV A ; JOHNSON DENIS E J ; JOHNSON DENNIS E J ; EJ DENNIS E J JOHNSON ; KLEINKE RICHARD A ; RICHARD A KLEINKE A ; WILEY MARCUS A ; WILEY MARCUS ; KLEINKE RICHARD ; JOHNSON DENNIS ; ABRAMOV GRIGORI ; MARCUS A WILEY A

Inventor(s): RICHA R KLEINKE ; RICHARD A KLEINKE ; JOHNSON DENNIS E ; MARCUS A WILEY ; GRIGORI A ABRAMOV ; JOHNSON DENNIS EJ ; DENNIS E J JOHNSON ; DENNIS E J JOHNSON EJ ; DENNIS EJ JOHNSON

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; SIM AND MCBURNEY; AIRD AND MCBURNEY LP; LUZ CLEMENCIA DE PAEZ; KADOR ULRICH; SANYOU INTELLECTUAL PROPERTY LTD; SANTANGELO LAW OFFICES PC; MACAW MISHA GREGORY

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid waste (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

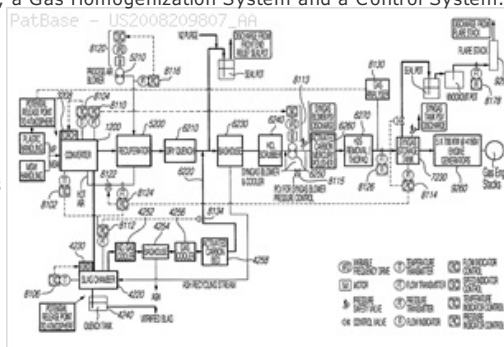
Classifications:

International (IPC 8-9): C01B3/36 C10B1/00 C10J1/207 C10J3/20 C10J3/46 C10J3/48 C10J3/72 C10J3/82 C10J3/84 F23G5/027 F23G5/08 F23J7/00 (Advanced/Invention)

CPC: C10J3/84 C10J3/20 C10J3/482 C10J3/723 C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/1223 C10J2300/1238 C10J2300/1634 C10J2300/1671 C10J2300/1681 F23G5/027 F23G5/085 F23G2204/201 F23G2209/262 F23J7/00 F23J2219/70 Y02E20/12 Y02E20/18 Y02E50/32 Y02W10/37 Y02P20/129 Y02P20/13 C10J3/463 C10J2300/0983 C10J2300/165 C10J2300/1693 C10K1/003 C10K1/024 C10K1/101 C10K1/12 C10K1/122 C10K1/14 C10K1/16 C10K1/20 C10K1/32 C10K3/008

European: C10J3/20 C10J3/48B C10J3/72C C10J3/82 C10J3/84 F23G5/027 F23G5/08C F23J7/00 M10J200/09 M10J300/09D14 M10J300/12F M10J300/12H2 M10J300/16D2D M10J300/16K M10J300/16P R23G204/201 R23G209/262 R23J219/70 Y02E50/32

US: 1/1 48/120 48/197.00RS 48/197FM 48/197R 48/209 48/210 48/89 48/89P

**Family:**

Publication number	Publication date	Application number	Application date
US2008209807 AA	20080904	US20070745438	20070507
US2013269252 AA	20131017	US20120720912	20121219
US8372169 BB	20130212	US20070745438	20070507
US9109172 BB	20150818	US20120720912	20121219

Priority:

US20060797973P 20060505	WO2006CA00881 20060605	WO2006CA00882 20060605
US20060864116P 20061102	US20070911179P 20070411	US20070745438 20070507
US20120720912 20121219		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): MCLEAN ALISDAIR ALAN ; SONI NIPUN ; FEASBY DOUGLAS MICHAEL ; SHEN ZHIYUAN ; DOBBS GEOFFREY ; MARCEAU PASCALE BONNIE ; DOBBS GEOFFREY ; TSANGARIS ANDREAS ; WAGLER THOMAS EDWARD ; ZOU XIAOPING ; CHOTALIYA ASHISH ; CUI MAO PEI ; SWAIN MARGARET ; PLASCO ENERGY GROUP INC ; BASHAM SCOTT DOUGLAS ; CAMPBELL KENNETH CRAIG

Assignee(s): CANADIAN WATER PROJECTS INC ; NORTH SHORE POWER GROUP INC

Inventor(s): (std): TSANGARIS ANDREAS ; SWAIN MARGARET ; CUI MAO PEI ; SONI NIPUN ; BASHAM SCOTT DOUGLAS ; CHOTALIYA ASHISH ; ZOU XIAOPING ; DOBBS GEOFFREY ; MCLEAN ALISDAIR ALAN ; CAMPBELL KENNETH CRAIG ; MARCEAU PASCALE BONNIE ; WAGLER THOMAS EDWARD ; FEASBY DOUGLAS MICHAEL ; SHEN ZHIYUAN ; DOBBS GEOFFREY

Agent(s): MBM AND CO; K AND L GATES LLP

Title: DISTILLATION REACTOR MODULE

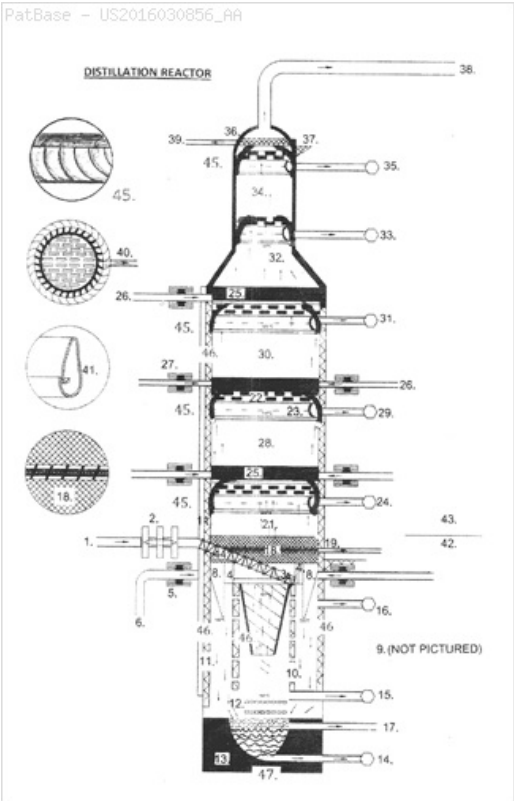
Abstract: The distillation reactor consists of a reactor apparatus with corresponding method of upstream distilling and purification of carbon based liquid or liquified streams for use as fuels, lubricating oils and or gaseous energy and electricity production. The distillation reactor consolidates the atmospheric and vacuum distillation processes along with desalting, defueling, deasphalting, fractionation, thin/wiped film evaporation and Hydro finishing into an advanced high velocity, high volume single reactor system. Carbon based feed streams include either a single stream or preferably, a combined stream of liquefied coal slurries, crude oils, spent oils, Pyrolytic oils and or peat or other plant carbon derived liquids, vapors, mists or gases. The method further consists of controlling the mix ratio, flow velocity, sequential fractionation and filtration technology and processing atmospheres of the carbon feeds with the reactor apparatus. The combined apparatus and method allows for a refinery to consistently produce a finished barrel of oil well below traditional costs and at a higher efficiency than current art and prior art.

Classifications:

International (IPC 8-9): B01D3/00 B01D3/06 B01D3/10 B01D3/26 B01D3/32 B01D39/20 B01D53/48 B01D53/62 B01D59/04 B01J B01J19/24 B01J19/26 B01J2/00 B01J6/00 B01J8/24 B02C23/00 B03C1/00 B22F3/10 B22F9/00 B29B17/00 C01B17/027 C01B17/74 C02F1/00 C10B49/12 C10G1/00 C10G11/18 C10G33/00 C10G45/00 C10G57/00 C10G7/00 C10G7/06 C10G9/04 C10J3/72 C10L9/10 C22B13/00 C22B15/00 C22B21/00 C22B7/00 C22B9/00 F03G7/00 F27B17/00 G21C1/02 G21D5/00 H01M10/54 H01M8/00 H02K55/02 H02K7/09 (Advanced/Invention)

CPC: Y02E30/40 G21D1/00 B01J19/0093 B01J2219/00864 B01J2219/00867 B01J2219/00871 C01G21/02 C01B3/32 C01B13/02 C01B17/02 C01B2203/0205 C01B2203/0283 C01B2203/043 C01B2203/0445 C01B2203/0475 C10G1/02 C10G1/10 C10G31/08 C10G75/04 Y02P20/129 B09B5/00 Y02P30/446 Y02E30/30 B01D3/10 B01D3/006 B01D3/06 B01D39/2027 F03G7/00 B01D3/009 C10G7/06 G21C1/00 G21D5/00 C10G7/00 C10G57/00 C10G7/003 C10L9/10 C10J3/72 C10G1/00 C01B17/027 C01B17/74 B01J6/008 B01J2/00 B01J19/24 B01D53/48 B01D53/62 C22B9/00 F27B17/00 C02F1/00 C22B7/00 B29B17/00 B22F3/10 B22F9/00 C22B21/00 C22B15/00 C22B13/00 H01M8/00 H01M10/54 H02K55/02 H02K7/09 B02C23/00 B03C1/00 C10L2290/544 C10J2300/093 C10J2300/0946 B22F2009/001 C01B17/48 C10G11/18 C10G33/00 C10G45/00 Y02E20/16 Y02E20/18 Y02W10/33 Y02W10/37 Y02W30/84 C01B32/05 C01B32/20 C01B32/50 Y02P10/143

US: 196/46 202/232 209/213 210/251 241/301 241/65 266/160



Family:

Publication number	Publication date	Application number	Application date
CA2907677 AA	20150921	CA20142907677	20140318
EP2969180 A2	20160120	EP20140762668	20140318
EP2969180 A4	20161005	EP20140762668	20140318
IL242590 A0	20160131	IL20140242590	20140318
JP2016512165 T2	20160425	JP20160502609T	20140318
US2016030856 AA	20160204	US20140776734	20140318
US2016032904 AA	20160204	US20140776736	20140318
US2016045841 AA	20160218	US20140776732	20140515
WO14146129 A2	20140918	WO2014US31118	20140318
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WO14200605 A4	20150430	WO2014US31116	20140318
WO14200605 A9	20150205	WO2014US31116	20140318

Priority:

US20130800209P 20130315	US20130801170P 20130315	US20130801491P 20130315
US20140776734 20140318	US20140776736 20140318	WO2014US31118 20140318
WO2014US31116 20140318	US20140776732 20140515	WO2014US38290 20140515

Probable Assignee: TRANSTAR GROUP LLC

Assignee(s): (std): BRADLEY RANDALL ; KALPAN ALLEN ; KAPLAN ALLEN ; TRANSTAR GROUP LTD

Assignee(s): TRANSTAR GROUP LLC

Inventor(s): (std): KAPLAN ALLEN ; BRADLEY RANDALL ; KALPAN ALLEN

Agent(s): ADE AND CO INC; NELLIGAN OBRIEN PAYNE LLP; PERRONACE ANDREA; HERSHKOVITZ ABRAHAM ET AL; HERSHKOTIZ ABRAHAM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

13) Family number: 44012417 (US2011162275A) © PatBase

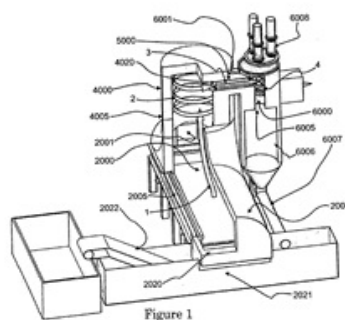
Title: RADIANT HEAT FLUX ENHANCED ORGANIC MATERIAL GASIFICATION SYSTEM

Abstract: A system for producing superior quality synthesis gas ("syngas") consisting of a series of chambers in which the gasification stages of reaction, homogenization and activation occur. The first stage reaction stage agitates and combines the reactants, consisting primarily of organic matter, oxidizer and steam, to initiate gasification of the organic and volatile fraction and to transport the inorganic residue to continuous removal. In the homogenization chamber, turbulence is induced by injecting gaseous species. The gas mixture emerging from the homogenization chamber is accelerated via a third stage communicating duct and is introduced tangentially into the fourth stage activation chamber inducing a cyclonic motion wherein a high intensity radiant heat source is introduced along the central axis of the gas vortex. The syngas and remaining particulate materials are constrained to exit the activation stage through discrete portals which are oriented to further

Classifications:

US: 1/1 48/197.00RS 48/197R 48/61 48/61P 48/89

Patent Application Publication Jul. 7, 2011 Sheet 1 of 4 US 2011/0162275 A1



Publication number	Publication date	Application number	Application date
CA2734630 AA	20091119	CA20092734630	20090515
CA2734630 C	20140318	CA20092734630	20090515
DE602009030970 D1	20150618	DE200960030970T	20090515
EP2285939 A1	20110223	EP20090746981	20090515
EP2285939 A4	20121205	EP20090746981	20090515
EP2285939 B1	20150429	EP20090746981	20090515
US2011162275 AA	20110707	US20090450336	20090515
US2013232875 AA	20130912	US20130871911	20130426
US8430939 BB	20130430	US20090450336	20090515
US9243197 BB	20160126	US20130871911	20130426
WO09139894 A1	20091119	WO2009US03019	20090515
WO09139894 A9	20141224	WO2009US03019	20090515

US20080127754	20080515	US20080127754P	20080515	EP20090746981	20090515
US20090450336	20090515	WO2009US03019	20090515	US20090450336	20090922
US20130871911	20130426				

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Inventor(s): (std): KADO YUJI ; HLADUN KENNETH ; RAMAMURTHI JAYARAMAN ; VETTER MARK EDWARD

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TZ TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Abstract: A system uses thermal solar energy coupled with microwaves and plasma for producing carbon monoxide (CO) and dihydrogen (H₂) from carbonated compounds (biomass, domestic waste, sludge from waste water, fossil coal), wherein the obtained gaseous mixture yields, amongst others, hydrocarbon fuels (olefins, paraffin), esters, and alcohols via a Fischer-Tropsch synthesis. In a first step the carbonated compounds are roasted and pyrolyzed to produce char and dry coal, and a mixture of superheated gases containing CO₂, steam, tars and non-condensable volatile materials. The method includes in a second step, and from the pyrolysis products (char or coal, gas mixture), generating a syngas substantially containing a mixture of carbon monoxide and dihydrogen, the mixture being used in Fischer-Tropsch synthesis units. After the Fischer-Tropsch step, the synthesis products are separated in a distillation column after heating in solar furnaces of mixed furnaces (solar/microwave).

International (IPC 8-9): A62D3/178 B01J B01J19/08 B01J19/10 B01J19/12 B01J19/18 B01J19/20 B01J7/00 B01J8/00 B01J8/44 C01B3/02 C01B3/04 C01B6/24 C10J C10J3/02 C10J3/08 C10J3/18

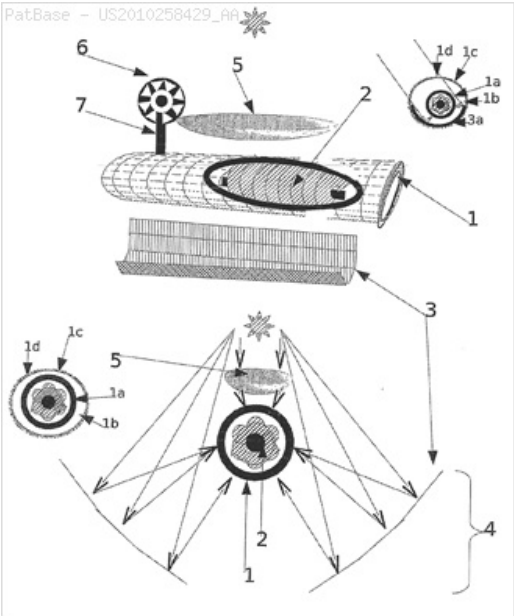
C10J3/20 C10J3/54 C10J3/72 C10L1/00 C10L3/08 F24J F24J2/00 F24J2/02 (Advanced/Invention);
B01J19/12 C10J3/02 C10J3/20 C10J3/54 C10L3/08 (Advanced/Non-invention);
B01J19/08 B01J19/10 B01J19/12 B01J19/18 B01J8/00 B01J8/24 C01B3/00 C10J3/02 C10J3/46 F24J2/00 (Core/Invention);
C10J3/46 (Core/Non-invention);
B01J B08B (Subclass/Invention)

International (IPC 1-7): B01J19/08 B01J19/12 C10J3/02 C10J3/20

CPC: B01J19/129 B01J8/0055 B01J8/44 B01J19/088 B01J19/10 B01J19/126 B01J19/127 B01J19/18 B01J19/1806 B01J19/20 B01J19/2405 B01J19/26 B01J2208/00884 B01J2219/0809 B01J2219/0815 B01J2219/082 B01J2219/0826 B01J2219/0828 B01J2219/083 B01J2219/0833 B01J2219/0841 B01J2219/0852 B01J2219/0854 B01J2219/0856 B01J2219/0858 B01J2219/086 B01J2219/0866 B01J2219/0867 B01J2219/0869 B01J2219/0871 B01J2219/0879 B01J2219/0892 B01J2219/0896 B01J2219/0898 B01J2219/1215 B01J2219/1227 B01J2219/1239 B01J2219/1242 B01J2219/1245 B01J2219/1266 B01J2219/1269 B01J2219/1272 B01J2219/1284 B01J2219/1296 B01J2219/185 B01J2219/1943 C10B19/00 C10J3/487 C10J3/66 C10J2300/0916 C10J2300/094 C10J2300/1284 C10J2300/16 C10L9/083 Y02E50/15 Y02E60/364 Y02T50/678 Y02P20/134 Y02P20/145

European: B01J19/08D2 B01J19/10 B01J19/12D12 B01J19/12D6 B01J19/12D8 B01J19/18 B01J19/18B B01J19/20 B01J19/24B B01J19/26 B01J8/00J2 B01J8/44 C10B19/00 C10J3/48D2 C10J3/66 C10L9/08B L01J208/00L6 L01J219/08D2B2 L01J219/08D2B3 L01J219/08D2B4D L01J219/08D2B6B L01J219/08D2B6B2 L01J219/08D2B6B4 L01J219/08D2B6D2 L01J219/08D2B8D L01J219/08D4B L01J219/08D4D L01J219/08D4F L01J219/08D4H L01J219/08D4H2 L01J219/08D4J4 L01J219/08D4J6 L01J219/08F L01J219/08H L01J219/08M12 L01J219/08M6 L01J219/08P2 L01J219/08P4 L01J219/12D6B2B L01J219/12D6B4A2 L01J219/12D6B4H L01J219/12D6B4J L01J219/12D6B4J4 L01J219/12D6D4 L01J219/12D6D6 L01J219/12D6D8 L01J219/12D6F6 L01J219/12D6H2D L01J219/18D L01J219/194B4 M10J300/09D2 M10J300/09D8 M10J300/12V M10J300/16 Y02E20/18 Y02E50/15 Y02E60/36D

US: 204/157.43 204/157.430P 422/186 422/186S 423/644 423/648.1 48/61 48/62R 48/65 48/77



Family:

Publication number	Publication date	Application number	Application date
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AU2008364688 AA	20090813	AU20080364688	20081114
AU2008364688 BB	20120628	AU20080364688	20081114
BRPI0819315 A2	20150818	BR2008PI19315	20081114
BRPI0819315 B1	20170613	BR2008PI19315	20081114
CA2705516 AA	20100511	CA20082705516	20081114
CA2705516 C	20160621	CA20082705516	20081114
CN101909741 A	20101208	CN200880124955	20081114
CN101909741 B	20130619	CN200880124955	20081114
DE602008008018 D1	20110818	DE200860008018T	20081114
EP2227324 A1	20100915	EP20080878657	20081114
EP2227324 B1	20110629	EP20080878657	20081114
ES2368813 T3	20111122	ES20080878657T	20081114
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FR2923732 A1	20090522	FR20070008031	20071116
FR2923732 B1	20110304	FR20070008031	20071116
IL205524 A0	20101230	IL20100205524	20100503
IL205524 A1	20130627	IL20080205524	20081114
IN01559KN2010 A	20100917	IN2010KN01559	20100504
IN275549 B	20160916	IN2010KN01559	20100504
JP2011503317 T2	20110127	JP20100533635T	20081114
JP5329556 B2	20131030	JP20100533635T	20081114
KR101542635 B1	20150806	KR20107013302	20081114
KR20100100885 A	20100915	KR20107013302	20081114
MA31844 B1	20101101	MA20100032831	20100512
PT2227324 T	20110928	PT20080878657T	20081114
RU2010118427 A	20111227	RU20100118427	20081114
RU2481152 C2	20130510	RU20100118427	20081114
US2010258429 AA	20101014	US20080742980	20081114
US8388706 BB	20130305	US20080742980	20081114
WO09098375 A1	20090813	WO2008FR01606	20081114
ZA201003437 A	20110223	ZA20100003437	20100514

Priority:

FR20070008031 20071116 FR20080000384 20080125 EP20080878657 20081114
WO2008FR01606 20081114

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Inventor(s): (std): UGOLIN NICOLAS GILBERT ; UGOLIN NICOLAS ; NICOLAS UGOLIN ; UGOLIN NIKOLAS

Inventor(s): NICOLAS GILBERT UGOLIN

Agent(s): FB RICE; FB RICE PTY LTD; GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; PATENTANWAELTE RUFF WILHELM BEIER DAUSTER AND PARTNER MBB; DESAIX ANNE; NICOLAS UGOLIN; WEBB AND CO; YOUNG AND THOMPSON

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Abstract: The invention described herein presents compositions and methods for a multistep biological and chemical process for the capture and conversion of carbon dioxide and/or other forms of inorganic carbon into organic chemicals including biofuels or other useful industrial, chemical, pharmaceutical, or biomass products. One or more process steps in the present invention utilizes chemoautotrophic microorganisms to fix inorganic carbon into organic compounds through chemosynthesis. An additional feature of the present invention describes process steps whereby electron donors used for the chemosynthetic fixation of carbon are generated by chemical or electrochemical means, or are produced from inorganic or waste sources. An additional feature of the present invention describes process steps for the recovery of useful chemicals produced by the carbon dioxide capture and conversion process, both from chemosynthetic reaction steps, as well as from non-biological reaction steps.

International (IPC 8-9): C05F11/00 C07H21/04 C09K17/00
C10L1/02 C12M1/00 C12M1/12 C12M1/42 C12M3/02 C12N1/12
C12N1/20 C12N1/21 C12N1/32 C12N15/00 C12N15/74 C12N15/88
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C12P3/00 C12P5/00 C12P5/02 C12P7/00 C12P7/02 C12P7/04
C12P7/06 C12P7/08 C12P7/16 C12P7/40 C12P7/54 C12P7/62
C12P7/64 C12P9/00 C12R1/01 C25B1/04
C25B15/02 (Advanced/Invention);
C12R1/01 C12R1/05 C12R1/41 C12R1/89 (Advanced/Non-invention);
C12P1/00 C12P1/04 C12P3/00 C12P5/00 C12P7/02
C12P7/40 (Core/Invention)

The diagram illustrates the general process flow of the system. It begins with a '1. Power Plant or other CO₂ Emitter' which provides 'Inorganic input chemical + energy' to a '2. Electron donor generation' unit. This unit produces 'Chemical product' and 'H₂O'. The 'Chemical product' is fed into a '5. Controller'. The 'H₂O' is fed into a '3. Chemical/nitrogen bioreactor'. The bioreactor also receives 'Waste Heat' and 'NPX + other nutrients'. It produces 'Chemical Energy / electron donor' and 'CO₂'. The 'Chemical Energy / electron donor' is fed into a '4. Cell Separation' unit. The 'CO₂' is fed into a '6. Separation of chemical co-products' unit. The '4. Cell Separation' unit produces 'Recycled Cell Mass' and 'Wet Cell Mass'. The '6. Separation of chemical co-products' unit produces 'Unrefined products' and 'Broth remainder'. The 'Recycled Cell Mass' is fed into a '7. Dry' unit. The 'Wet Cell Mass' is fed into a '8. Wash removal' unit. The 'Unrefined products' are fed into a '9. Product processing' unit. The 'Broth remainder' is fed into a '10. Waste removal' unit. The '7. Dry' unit produces 'Dry Biomass'. The '8. Wash removal' unit produces 'Chemical waste'. The '9. Product processing' unit produces 'Chemical product'. The '10. Waste removal' unit produces 'Chemical waste'. The '5. Controller' is connected to the '2. Electron donor generation', '3. Chemical/nitrogen bioreactor', '4. Cell Separation', '6. Separation of chemical co-products', '7. Dry', '8. Wash removal', and '9. Product processing' units.

Publication number	Publication date	Application number	Application date
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JP5956927 B2	20160727	JP20120537850T	20100512
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US2010120104 AA	20100513	US20090613550	20091106
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US2018179559 AA	20180628	US20180899303	20180219
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US2018346941 AA	20181206	US20170839785	20171212
US2019040427 AA	20190207	US20180936440	20180327
US9085785 BB	20150721	US20130033013	20130920
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US9957534 BB	20180501	US20160233512	20160810
WO11056183 A1	20110512	WO2010US01402	20100512
WO11139804 A2	20111110	WO2011US34218	20110427
WO11139804 A3	20120405	WO2011US34218	20110427
WO13082309 A1	20130606	WO2012US67112	20121129
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US20080111794P	20081106	US20090613550	20091106	US20100328184P	20100427
US20100508472	20100512	WO2010U501402	20100512	JP20130508232T	20110427
US20110643872	20110427	WO2011U534218	20110427	US20110536056P	20110919
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Probable Assignee: KIVERDI INC

Assignee(s): (std): DYSON LISA ; KIVERDI INC ; REED JOHN ; REED JOHN S ; REED JOHN STUART ; SEQUESCO

Inventor(s): (std): REED JOHN ; JANSSON CHRISTER ; DALLA BETTA PETER ; GALGOCZY DAVID ; FYRST HENRIK ; LISA DYSON ; JOHN REED ; SIANI ROSE MICHAEL ; JANNSON CHRISTER ; KUREK ITZHAK ; DYSON LISA ; REED JOHN STUART ; REED JOHN S

Agent(s): BRIDLE ANDREW BARRY; YUSARN AUDREY; JOHN REED; JILL A; POMIANEK MICHAEL J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

16) Family number: 31423984 (US2006266637A)

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Title: PLASMA REACTOR FOR THE PRODUCTION OF HYDROGEN-RICH GAS

Abstract: A plasma reactor (10) is provided. The plasma reactor (10) includes a reaction chamber (12) formed by a wall (13). Proximate to the first end of the reaction chamber, the plasma reactor includes a feed gas inlet (14) for creating a reverse vortex gas flow (16) in the reaction chamber. The plasma reactor (10) also includes an anode and a cathode connected to a power source for generation of an electric arc for plasma generation in said reaction chamber. The plasma reactor (10) may optionally include a movable electrode adapted for movement from a first, ignition position to a second, operational position in the reaction chamber. Also provided is a method of converting light hydrocarbons to hydrogen-rich gas, using the plasma reactor of the invention.

Classifications:

International (IPC 8-9): B01J19/08 B01J19/12 C01B3/24 C01B3/26 C01B3/36 C07C1/00 C10J1/00 C10J3/18 H05F3/00 H05H1/24 H05H1/50 (Advanced/Invention);

B01J19/08 B01J19/12 C07C1/00 C10J1/00 C10J3/02 H05F3/00 H05H1/24 (Core/Invention);

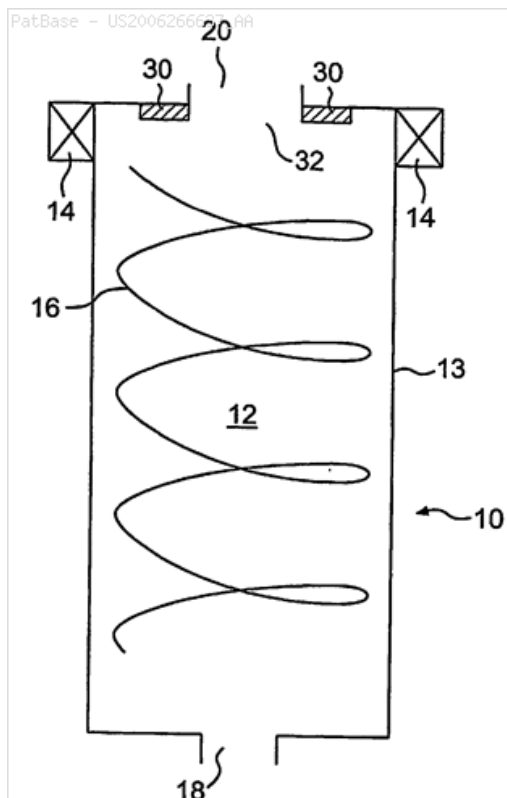
B01J H05H (Subclass/Invention)

International (IPC 1-7): B01J19/08 B01J19/12 C07C1/00

CPC: C10J3/487 C10J2300/0916 C10J2300/092 C10J2300/093 C10J2300/0956 C10J2300/0959 C10J2300/0973 C10J2300/1238 C01B3/26 C10J3/18 Y02P20/132 Y02P20/145 B01J2219/0816 B01J2219/082 B01J2219/0826 B01J2219/0828 B01J2219/083 B01J2219/0832 B01J2219/0833 B01J2219/0835 B01J2219/0869 B01J2219/0871 B01J2219/0875 B01J2219/0883 B01J2219/0898 C01B3/342 C01B2203/0861 C01B2203/1241 H05H1/48 F23C10/007 B01F5/0068 B01J8/008 B01J8/085 B01J8/14 B01J8/245 B01J19/006 B01J19/088 B01J2208/0084 B01J2219/0809 B01J2219/0824 B01J2219/0879 B01J2219/0894 B01J2219/1946 B22F9/22 B22F2998/00 H05H2245/121

European: B01F5/00B8 B01J19/00D2 B01J19/08D2 B01J8/00L B01J8/08F B01J8/14 B01J8/24B B22F9/22 C01B3/34G C10J3/18 C10J3/48 C10J3/48D2 F23C10/00R H05H1/24 H05H1/48 L01J208/00L4B2 L01J219/08D2B2 L01J219/08D2B4 L01J219/08D2B4D L01J219/08D2B6 L01J219/08D2B6B L01J219/08D2B6B2 L01J219/08D2B6B4 L01J219/08D2B6D L01J219/08D2B6D2 L01J219/08D2B6F L01J219/08F L01J219/08H L01J219/08M2 L01J219/08M6 L01J219/08M8B L01J219/08P L01J219/08P4 L01J219/194B8 L22F998/00 M01B203/08B10 M01B203/12B2D2 M10J300/09D2 M10J300/09D2B M10J300/09D6 M10J300/09F14 M10J300/09F2 M10J300/09F4 M10J300/12H2 T05K999/99

US: 204/164 204/168 204/169 252/373 422/186.04 422/186.040P 422/186.040S 422/186.21 422/186.210S 422/186.23 422/186.26 423/650 48/219 48/219S 48/65 48/65P



Family:

Publication number	Publication date	Application number	Application date
US2006266637 AA	20061130	US20040560439	20040618
US2007196249 AA	20070823	US20040560537	20040618
US2009056222 AA	20090305	US20080176118	20080718
US2011062014 AA	20110317	US20100952676	20101123
US2012141332 AA	20120607	US20110314562	20111208
US2012321527 AA	20121220	US20120599198	20120830
US2014042368 AA	20140213	US20130060941	20131023
US7867457 BB	20110111	US20040560439	20040618
US8110155 BB	20120207	US20040560537	20040618
US8361401 BB	20130129	US20110314562	20111208
US8361404 BB	20130129	US20080176118	20080718
US8603403 BB	20131210	US20120599198	20120830
US8864953 BB	20141021	US20130060941	20131023
WO04112950 A2	20041229	WO2004US19589	20040618
WO04112950 A3	20050506	WO2004US19589	20040618
WO05004556 A2	20050113	WO2004US19590	20040618
WO05004556 A3	20050602	WO2004US19590	20040618

Priority:

US20030480132P 20030620

US20030480341P 20030620

US20040551725P 20040310

US20040560439	20040618	US20040560439	20040618	US20040560537	20040618
WO2004US19590	20040618	WO2004US19589	20040618	US20060560439	20060724
US20070560537	20070228	US20080176118	20080718	US20100952676	20101123
US20110314562	20111208	US20120599198	20120830	US20130060941	20131023

Probable Assignee: DREXEL UNIV

Assignee(s): (std): BLANK KENNETH ; CHEVRON USA INC ; FRIDMAN ALEXANDER ; CHO YOUNG I ; DESHPANDE VIJAY A ; GALLAGHER MICHAEL J ; UNIV DREXEL ; TRUSTEES OF UNIV OF ; GUTSOL ALEXANDER F ; KENNEDY LAWRENCE ; SAVELIEV ALEXEI ; RUFEL TECL S ; ROMANETS ANDREY ; MATVEEV IGOR ; GUTSOL ALEXANDER ; POLEVICH ANATOLIY ; UNIV ILLINOIS ; MARTVEEV IGOR ; POLEVICH ANATOLY

Assignee(s): THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS ; THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOI ; CHEVRON U S A ; CHEVRON U S A INC ; DREXEL UNIVERSITY ; BOARD OF TRUSTEES ; BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS ; BOARD OF TRUSTEES OF UNIV ; BOARD OF TRUSTEES OF UNIV ILLINOIS ; BOARD OF TRUSTEES OF UNIV OF ILLINOIS ; DREXEL UNIV ; CHEVRON USA

Inventor(s): (std): DESHPANDE VIJAY A ; FRIDMAN ALEXANDER ; GUTSOL ALEXANDER ; GUTSOL ALEXANDER F ; KENNEDY LAWRENCE ; MATVEEV IGOR ; POLEVICH ANATOLY ; ROMANETS ANDREY ; BLANK KENNETH ; CHO YOUNG I ; RUFEL TECL S ; SAVELIEV ALEXEI ; POLEVICH ANATOLIY ; GALLAGHER MICHAEL J ; MARTVEEV IGOR

Inventor(s): DESHPANDE VIJAY ; CHO YOUNG ; RUFEL TECL

Agent(s): KNOBLE YOSHIDA AND DUNLEAVY; WOODCOCK WASHBURN LLP; BAKER AND HOSTETLER LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

17) Family number: 57789254 (US2014332724A)

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Title: GASIFICATION SYSTEM WITH PROCESSED FEEDSTOCK/CHAR CONVERSION AND GAS REFORMULATION

Abstract: The invention provides a system designed for the complete conversion of carbonaceous feedstock into syngas and slag. The system comprises a primary chamber for the volatilization of feedstock generating a primary chamber gas (an offgas); a secondary chamber for the further conversion of processed feedstock to a secondary chamber gas (a syngas) and a residue; a gas-reformulating zone for processing gas generated within one or more of the chambers; and a melting chamber for vitrifying residue. The primary chamber comprises direct or indirect feedstock additive capabilities in order to adjust the carbon content of the feedstock. The system also comprises a control system for use with the gasification system to monitor and regulate the different stages of the process to ensure the efficient and complete conversion of the carbonaceous feedstock into a syngas product.

Classifications:

International (IPC 8-9): B01J7/00 C01B3/22 C10B1/02 C10J3/48 C10J3/64 C10J3/72 C10J3/82 C10K1/00

C10K3/00 (Advanced/Invention);

C10J3/42 (Advanced/Non-invention)

CPC: C01B3/22 C01B2203/0266 C01B2203/0861 C01B2203/16

C10J3/42 C10J3/48 C10J3/64 C10J3/721 C10J3/723 C10J3/726

C10J3/82 C10J2200/09 C10J2300/0916 C10J2300/093

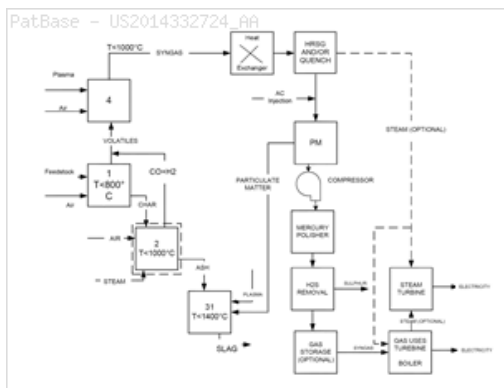
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C10J2300/1687 C10J2300/1869 C10J2300/1884 C10K1/002

C10K3/001 Y02P20/145

US: 1/1 252/373 422/643



Family:

Publication number	Publication date	Application number	Application date
US2014332724 AA	20141113	US20140173957	20140206
US9321640 BB	20160426	US20140173957	20140206

Priority:

US20100919829 20101029 US20140173957 20140206

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): CANADIAN WATER PROJECTS INC ; NORTH SHORE POWER GROUP INC

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS

Agent(s): SCULLY SCOTT MURPHY AND PRESSER; EDWARD

18) Family number: 43929109 (US2008147241A)

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Title: CONTROL SYSTEM FOR THE CONVERSION OF CARBONACEOUS FEEDSTOCK INTO GAS

Abstract: The present invention provides a control system for the conversion of carbonaceous feedstock into a gas. In particular, the control system is designed to be configurable for use in controlling one or more processes implemented in, and/or by, a gasification system for the conversion of such feedstock into a gas, which may be used for one or more downstream applications. Gasification processes controllable by different embodiments of the disclosed control system may include in various combinations, a converter, a residue conditioner, a recuperator and/or heat exchanger system, one or more gas conditioners, a gas homogenization system and one or more downstream applications. The control system operatively controls various local, regional and/or global processes related to the overall gasification process, and thereby adjusts various control parameters thereof adapted to affect these processes for a selected result. Various sensing elements and response elements are therefore distributed throughout the controlled system and used to acquire various process, reactant and/or product characteristics, compare these characteristics to suitable ranges of such characteristics conducive to

achieving the desired result, and respond by implementing changes to in one or more of the ongoing processes via one or more controllable process devices.

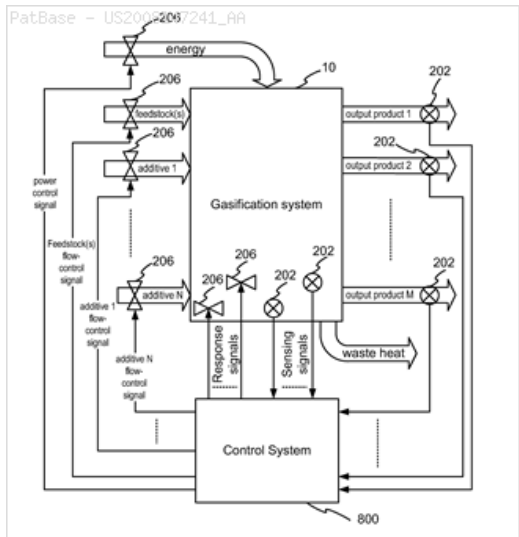
Classifications:

International (IPC 8-9): G05B15/02 (Advanced/Invention);
G05B15/02 (Core/Invention)

CPC: C10J3/00 C10J3/82 C10J3/84 C10J3/86 C10J2300/0916
C10J2300/092 C10J2300/0923 C10J2300/0973 C10J2300/1238
C10J2300/1675 C10J2300/1869 C10J2300/1884 C10J2300/1892
C10K1/002 C10K1/003 C10K1/004 C10K1/006 C10K1/007
C10K1/024 C10K1/101 C10K1/12 C10K1/20 C10K1/32 Y10T436/12
C03B5/005 C03B5/025 C10J3/002 C10J2300/0956 C10J2300/0976
C10J2300/1603 C10J3/723 C10J2300/093 C10J2300/0946
C10J2300/1671 Y02E20/18 Y02P40/535 Y02P40/58 Y02P40/59

European: C10J3/00 C10J3/72C C10J3/82 C10J3/84 C10J3/86
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C10K1/02D C10K1/10B C10K1/12 C10K1/20 C10K1/32
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M10J300/16K2 M10J300/18M2 M10J300/18M6 M10J300/18M8
T05K999/99 Y02E20/18

US: 422/105 422/106 422/107 422/108 422/109 422/110 422/111
422/112 422/113 422/114 422/115 422/172 422/176 422/182
422/183 422/2 422/62 435/3 436/3 436/55 700/266 700/268
700/271 700/272 700/273 700/273P 700/274 702/31 702/32



Family:

Publication number	Publication date	Application number	Application date
US2008147241 AA	20080619	US20070745435	20070507
US8306665 BB	20121106	US20070745435	20070507

Priority:

US20060746632P 20060505	US20060797973P 20060505	WO2006CA00881 20060605
WO2006CA00882 20060605	US20060864116P 20061102	US20070911179P 20070411
US20070745435 20070507		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): CAMPBELL KENNETH CRAIG ; FEASBY DOUGLAS MICHAEL ; MCLEAN ALISDAIR ALAN ; PLASCO ENERGY GROUP INC ; PLASCO ENERGY GROUP INC ; TSANGARIS ANDREAS

Assignee(s): NORTH SHORE POWER GROUP INC ; CANADIAN WATER PROJECTS INC

Inventor(s): (std): TSANGARIS ANDREAS ; SWAIN MARGARET ; MCLEAN ALISDAIR ALAN ; FEASBY DOUGLAS MICHAEL ; CAMPBELL KENNETH CRAIG

Agent(s): AKERMAN SENTERFITT

19) Family number: 43929080 (CA2651338A)

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Title: A CONTROL SYSTEM FOR THE CONVERSION OF A CARBONACEOUS FEEDSTOCK INTO GAS

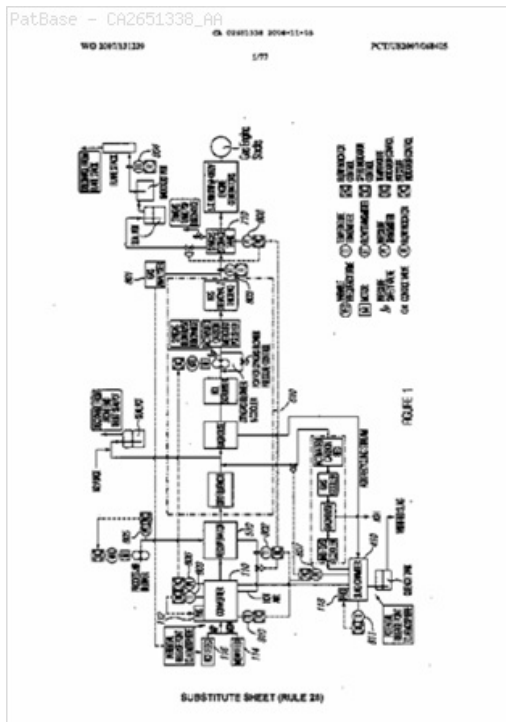
Abstract: The present invention provides a control system for the conversion of carbonaceous feedstock into a gas. In particular, the control system is designed to be configurable for use in controlling one or more processes implemented in, and/or by, a gasification system for the conversion of such feedstock into a gas, which may be used for one or more downstream applications. Gasification processes controllable by different embodiments of the disclosed control system may include in various combinations, a converter, a residue conditioner, a recuperator and/or heat exchanger system, one or more gas conditioners, a gas homogenization system and one or more downstream applications. The control system operatively controls various local, regional and/or global processes related to the overall gasification process, and thereby adjusts various control parameters thereof adapted to affect these processes for a selected result. Various sensing elements and response elements are therefore distributed throughout the controlled system and used to acquire various process, reactant and/or product characteristics, compare these characteristics to suitable ranges of such characteristics conducive to achieving the desired result, and respond by implementing changes to in one or more of the ongoing processes via one or more controllable process devices.

Classifications:

International (IPC 8-9): B01J19/00 C10J3/00 C10J3/72 G01N31/00
G05B21/00 (Advanced/Invention);
B01J19/00 C10J3/00 G01N31/00 G05B21/00 (Core/Invention)

CPC: C10J3/18 C03B5/005 C03B5/025 C10B53/00 C10J3/16
Y02E20/18 C10J3/002 C10J3/723 C10J2300/093 C10J2300/0946
C10J2300/0956 C10J2300/0976 C10J2300/1603 C10J2300/1671

European: Y02E20/18

**Family:**

Publication number	Publication date	Application number	Application date
CA2651338 AA	20081105	CA20072651338	20070507
CA2651338 C	20130416	CA20072651338	20070507

Priority:

US20060746632P 20060505	US20060797973P 20060505	WO2006CA00881 20060605
WO2006CA00882 20060605	US20060864116P 20061102	US20070911179P 20070411
CA20072651338 20070507	WO2007US68405 20070507	

Probable Assignee: PLASCO ENERGY GROUP INC**Assignee(s):** (std): PLASCO ENERGY GROUP INC**Assignee(s):** TSANGARIS ANDREAS ; WAGLER THOMAS EDWARD ; SWAIN MARGARET ; ZOU XIAOPING ; CAMPBELL KENNETH CRAIG ; FEASBY DOUGLAS MICHAEL ; MARCEAU PASCALE BONNIE ; MCLEAN ALISDAIR ALAN ; PLASCO CONVERSION TECHNOLOGIES INC**Inventor(s):** (std): ZOU XIAOPING ; FEASBY DOUGLAS MICHAEL ; SWAIN MARGARET ; WAGLER THOMAS EDWARD ; CAMPBELL KENNETH CRAIG ; TSANGARIS ANDREAS ; MCLEAN ALISDAIR ALAN ; MARCEAU PASCALE BONNIE**Agent(s):** MBM INTELLECTUAL PROPERTY LAW LLP**20) Family number: 49145287** (GB2476899A)

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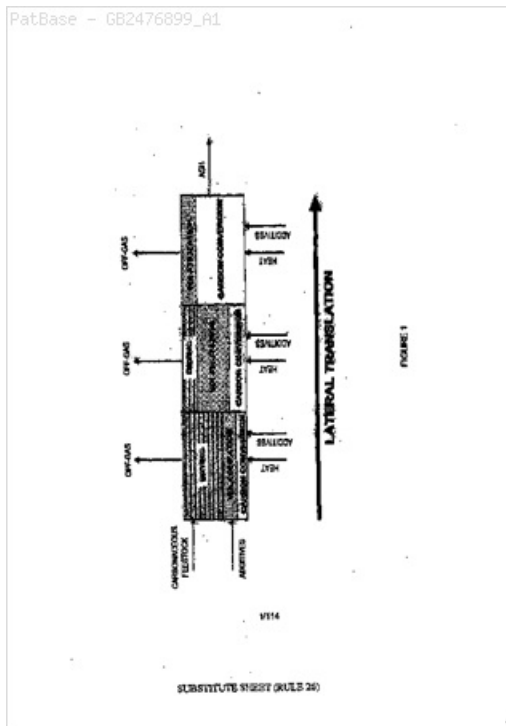
Title: A LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid waste (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System using plasma heat; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

Classifications:**International (IPC 8-9):** B09B3/00 C10J1/207 C10J3/00 C10K1/02 C10K3/00 (Advanced/Invention)

CPC: C10K1/003 C10K1/024 C10K3/008 B09B3/00 C10J3/00 C10K1/02 C10K3/00 Y02P20/129 C10J2300/0983 C10J2300/165 C10J2300/1693 C10K1/101 C10K1/12 C10K1/122 C10K1/14 C10K1/16 C10K1/20 C10K1/32 Y02E20/12 Y02E20/18 Y02E50/32 Y02P20/13 Y02W10/37 C10J3/84 C10J3/20 C10J3/463 C10J3/482 C10J3/723 C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/1223 C10J2300/1238 C10J2300/1634 C10J2300/1671 C10J2300/1681 F23G5/027 F23G5/085 F23G2204/201 F23G2209/262 F23J7/00 F23J2219/70

European: C10J3/20 C10J3/48B C10J3/72C C10J3/82 C10J3/84 F23G5/027 F23G5/08C F23J7/00 M10J200/09 M10J300/09D14 M10J300/12F M10J300/12H2 M10J300/16D2D M10J300/16K M10J300/16P R23G204/201 R23G209/262 R23J219/70

**Family:**

Publication number	Publication date	Application number	Application date
GB201106382 A0	20110601	GB20110006382	20070507
GB2476899 A1	20110713	GB20110006382	20070507
GB2476899 B2	20111019	GB20110006382	20070507

Priority:

US20060797973P 20060505	WO2006CA00881 20060605	WO2006CA00882 20060605
US20060864116P 20061102	US20070911179P 20070411	GB20080022180 20070507

Probable Assignee: PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH

Assignee(s): (std): PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH

Assignee(s): PLASCOENERGY IP HOLDINGS SL ; PLASCOENERGY IP HOLDINGS S L

Inventor(s): (std): ZOU XIAOPING ; XIAOPING ZOU ; BASHAM SCOTT DOUGLAS ; CHOTALIYA ASHISH ; DOBBS GEOFFREY ; CAMPBELL KENNETH CRAIG ; SONI NIPUN ; FEASBY DOUGLAS MICHAEL ; MCLEAN ALISDAIR ALAN ; SHEN ZHIYUAN ; CUI MAO PEI ; MARCEAU PASCALE BONNIE ; WAGLER THOMAS EDWARD ; TSANGARIS ANDREAS ; SWAIN MARGARET

Inventor(s): ASHISH CHOTALIYA ; KENNETH CRAIG CAMPBELL ; DOUGLAS MICHAEL FEASBY ; ALISDAIR ALAN MCLEAN ; ANDREAS TSANGARIS ; ZHIYUAN SHEN ; MAO PEI CUI ; MARGARET SWAIN ; NIPUN SONI ; GEOFFREY DOBBS ; SCOTT DOUGLAS BASHAM ; PASCALE BONNIE MARCEAU ; THOMAS EDWARD WAGLER

21) Family number: 54153126 (US2013164798A)

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Title: PROCESSES FOR PRODUCING HYDROCARBON PRODUCTS

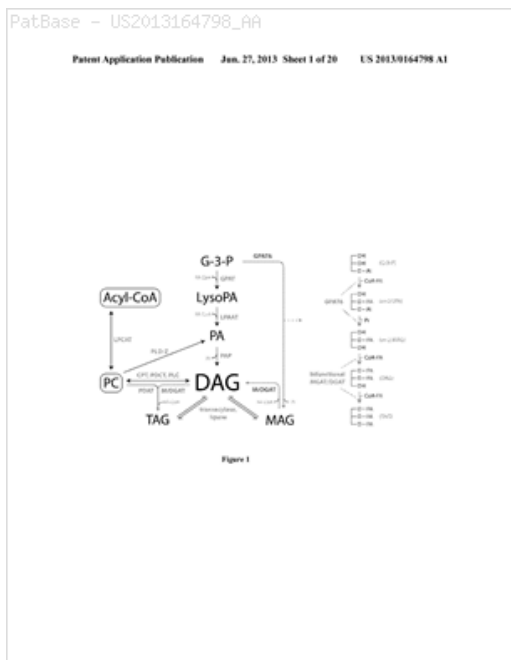
Abstract: The present invention relates to processes for producing industrial products such as hydrocarbon products from non-polar lipids in a vegetative plant part. Preferred industrial products include alkyl esters which may be blended with petroleum based fuels.

Classifications:

International (IPC 8-9): A01H A01H5/00 A01H5/10 A23D7/00 A23D9/00 A23K1/14 A23K1/16 A23K10/10 A23K10/30 A23K20/153 A23L1/20 A61K8/36 A61K8/37 A61K8/63 A61K8/92 A61K8/97 C01B3/22 C01B31/18 C01B32/40 C07C1/207 C07C29/147 C07C67/00 C07C67/48 C07K14/415 C10B53/02 C10G2/00 C10J3/82 C10L1/02 C10L1/04 C10L1/14 C10L1/16 C10L1/19 C10L5/40 C10L5/44 C11B C11B1/00 C11B1/04 C11B1/06 C11B1/10 C11B3/00 C11B3/02 C11B3/10 C11B3/14 C11B7/00 C11C3/00 C12N C12N1/13 C12N15/09 C12N15/29 C12N15/52 C12N15/54 C12N15/82 C12N5/10 C12N9/10 C12P C12P1/00 C12P21/02 C12P3/00 C12P5/00 C12P5/02 C12P7/04 C12P7/06 C12P7/16 C12P7/64 G01N33/483 (Advanced/Invention); C10L5/44 (Advanced/Non-invention)

CPC: C11B1/00 C11B1/10 Y02E50/13 Y02E50/17 Y02E50/32 C10G2/30 C10J3/82 C10L1/02 C01B3/22 C10J2300/0916 C10J2300/1659 C10J2300/0906 C10J2300/1846 C10L2200/0476 C10L2200/0492 C10L2200/0469 C10L2270/026 C10L2290/04 C10L2290/02 C10L2290/42 C10L2290/30 C10L2290/28 C10L2290/26 C01B2203/1211 C07C67/48 C07K14/415 C10G2/00 C10L1/026 C10L5/44 C11B3/001 C11B3/14 C11B7/0075 C11C3/003 C12N15/8218 C12P7/6463 Y02E50/343 A23K10/30 A23K20/153 Y02E20/16 Y02E20/18 C10L2290/544 C10L2290/24 C10B53/02 C12N9/1051 C12Y204/01101 C10L2290/06 A01H5/00 C12P1/00 C12N15/8247 C11B1/04 C11B3/006 C11B3/10 C11B7/0008 C01B32/40 Y02E50/14 Y02E50/30

US: 1/1 252/373 423/418.2 423/648.1 426/2 435/134 435/157 435/160 435/161 435/166 435/167 435/168 435/271 435/440



Family:

Publication number	Publication date	Application number	Application date
AR089442 AA	20140820	AR2012P104952	20121221
AU2012324024 AA	20130711	AU20120324024	20121221
AU2012324024 BB	20160616	AU20120324024	20121221
AU2013205482 AA	20130711	AU20130205482	20130412
AU2013205482 BB	20161110	AU20130205482	20130412
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AU2018250483 AA	20181115	AU20180250483	20181019
BR112014015921 A2	20170613	BR20141115921	20121221
BR112014015921 A8	20170613	BR20141115921	20121221
BR112014015921 A8	20170704	BR20141115921	20121221
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CA2860434 AA	20140625	CA20122860434	20121221
CL2014001715 A1	20150424	CL20140001715	20140624
CN104271743 A	20150107	CN201280070729	20121221
EP2798066 A1	20141105	EP20120863568	20121221
EP2798066 A4	20160224	EP20120863568	20121221
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JP2015511118 T2	20150416	JP20140549274T	20121221
JP6461604 B2	20190130	JP20140549274T	20121221
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NZ627107 A	20161223	NZ20120627107	20121221
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WO13096993 A1	20130704	WO2012AU01598	20121221
ZA201405075 A	20151223	ZA20140005075	20121221

Priority:

US20100718563P	20101025	US20110580590P	20111227	US20120718563P	20121025
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US20160332654	20161024	AU20170200923	20170210	AU20180250483	20181019

Probable Assignee: COMMW SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

Assignee(s): (std): COMMW SCIENT AND IND RES ORGANISATION ; COMMW SCIENT AND INDUSTRIAL RESEARCH ORGANISATION ; COMMW SCIENT IND RES ORG ; EL TAHCHY ANNA ; PETRIE JAMES ROBERTSON ; KOMMONVELT SAJNTIFIK END INDASTRIEL RISERCH ORGANIZEJSHN ; SINGH SURINDER PAL ;

Assignee(s): VANHERCKE THOMAS ; SINGH SURINDER ; VANHERCKE THOMAS ROBERTSON ; LIU QING
COMMW SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION ; COMMW SCIENTIFIC AND
INDUSTRIAL RESEARCH ORGANISATIONLIMESTONE AVENUEAUSTRALIAN CAPITAL
TERRITORY2612CAMPBELLAU ; COMMW SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION
CSIRO ; COMMW SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION

Inventor(s): (std): SINGH SURINDER PAL ; VANHERCKE THOMAS ; EL TAHCHY ANNA ; LIU QING ; PETRIE JAMES
ROBERTSON ; JAMES ROBERTSON PETRIE ; SURINDER PAL SINGH ; ANNA EL TAHCHY ; THOMAS
VANHERCKE ; TAHCHY ANNA EL ; QING LIU ; ROBERTSON PETRIE JAMES ; PAL SINGH SURINDER ;
VANERKE TOMAS ; PETRI DZHEJMS ROBERTSON ; EL TAKHCHI ANNA ; SINGKH SURINDER PAL ; LYU
TSIN ; SINGH SURINDER ; VANHERCKE THOMAS ROBERTSON

Inventor(s): SINGH SURINDER PALAU ; PETRIE JAMES ROBERTSONAU ; LIU QINGAU ; EL TAHCHY ANNAU ;
VANHERCKE THOMASAU

Agent(s): FB RICE; FB RICE PTY LTD; SMART AND BIGGAR; CLARKE MODET AND CO CHILE LTDA; ALMOND
MARTIN CAROL; YURIDICHESKAYA GORODISSKI I PARTNERY OOO FA; OOO YURIDICHESKAYA
GORODISSKI I PARTNERY FA; COOPER AND DUNHAM LLP; GARY J; JOHN P; WHITE JOHN P; GERSHIK
GARY J

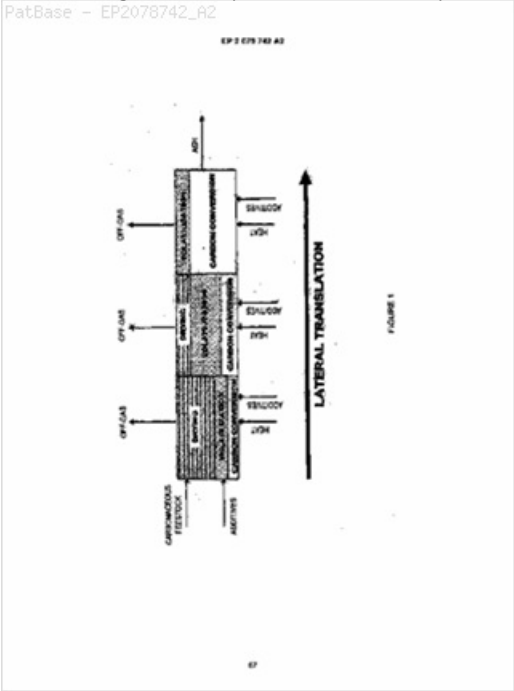
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IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR
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SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

22) Family number: 43929090 (EP2078742A2) © PatBase

Title: A LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing water heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid water (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

Classifications:
International (IPC 8-9): C10J1/207 C10J3/20 C10J3/48 C10J3/72 C10J3/82 C10J3/84 F23G5/027 F23G5/08 F23G5/12 F23J7/00 (Advanced/Invention)
CPC: C10J3/84 C10J3/20 C10J3/482 C10J3/723 C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/1223 C10J2300/1238 C10J2300/1634 C10J2300/1671 C10J2300/1681 F23G5/027 F23G5/085 F23G2204/201 F23G2209/262 F23J7/00 F23J2219/70 Y02E20/12 Y02E20/18 Y02E50/32 Y02W10/37 Y02P20/129 Y02P20/13 C10J3/463 C10J2300/0983 C10J2300/165 C10J2300/1693 C10K1/003 C10K1/024 C10K1/101 C10K1/12 C10K1/122 C10K1/14 C10K1/16 C10K1/20 C10K1/32 C10K3/008
European: C10J3/20 C10J3/48B C10J3/72C C10J3/82 C10J3/84 F23G5/027 F23G5/08C F23J7/00 M10J200/09 M10J300/09D14 M10J300/12F M10J300/12H2 M10J300/16D2D M10J300/16K M10J300/16P R23G204/201 R23G209/262 R23J219/70 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
EP2078742 A2	20090715	EP20090004387	20070507
EP2078742 A3	20100623	EP20090004387	20070507
EP2500646 A1	20120919	EP20120165275	20070507

Priority:

US20060797973P 20060505 WO2006CA00881 20060605 WO2006CA00882 20060605
US20060864116P 20061102 US20070911179P 20070411 EP20070811876 20070507

Probable Assignee: PLASCOENERGY IP HOLDINGS SLB

Assignee(s): (std): PLASCOENERGY IP HOLDINGS S L B ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN
BRANCH ; PLASCOENERGY IP HOLDINGS SLB

Assignee(s): PLASCOENERGY IP HOLDINGS S L ; PLASCOENERGY IP HOLDINGS SL ; PLASCOENERGY IP HOLDINGS
SL BILBAO... ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH

Inventor(s): (std): ZOU XIAOPING ; WAGLER THOMAS EDWARD ; TSANGARIS ANDREAS ; SWAIN MARGARET ; SONI
NIPUN ; SHEN ZHIYUAN ; MCLEAN ALISDAIR ALAN ; MARCEAU PASCALE BONNIE ; FEASBY DOUGLAS
MICHAEL ; DOBBS GEOFFREY ; CUI MAO PEI ; CHOTALIYA ASHISH ; CAMPBELL KENNETH CRAIG ;
BASHAM SCOTT DOUGLAS

Agent(s): CLEGG RICHARD IAN

Designated states: AL AT BA 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 PL PT
RO RS SE SI SK TR

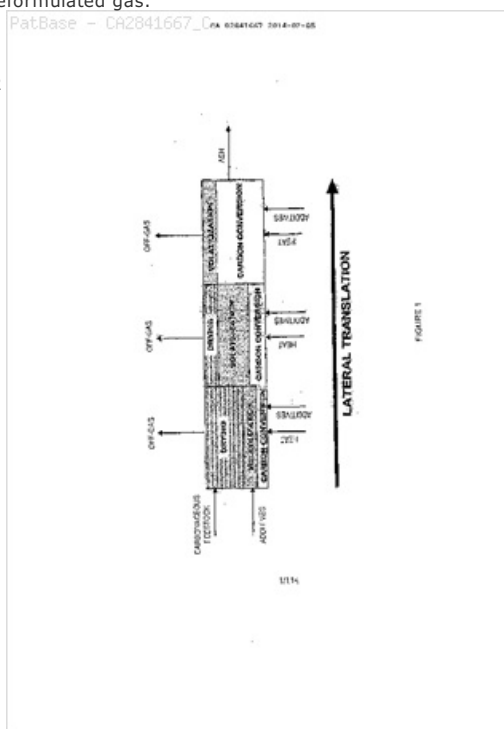
Title: A GASIFICATION FACILITY WITH A HORIZONTAL GASIFIER AND A PLASMA REFORMER

Abstract: A gasification facility comprising a gasifier and plasma reformulation system is provided. The facility is configured to perform optimized processes comprising generating a raw offgas and/or syngas from carbonaceous feedstock and processes for converting the raw offgas and/or syngas to a plasma reformulated gas.

Classifications:

International (IPC 8-9): C10J1/207 C10J3/82 C10J3/84 C10K1/02 C10K3/00 (Advanced/Invention)
CPC: C10J3/84 C10J3/20 C10J3/463 C10J3/482 C10J3/723 C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/0983 C10J2300/1223 C10J2300/1238 C10J2300/1634 C10J2300/165 C10J2300/1671 C10J2300/1681 C10J2300/1693 C10K1/003 C10K1/024 C10K1/101 C10K1/12 C10K1/122 C10K1/14 C10K1/16 C10K1/20 C10K1/32 C10K3/008 F23G5/027 F23G5/085 F23G2204/201 F23G2209/262 F23J7/00 F23J2219/70 Y02E20/12 Y02E20/18 Y02E50/32 Y02P20/129 Y02P20/13 Y02W10/37

PatBase - CA2841667_C 63861407 2014-07-05



Family:

Publication number	Publication date	Application number	Application date
CA2841667 AA	20090514	CA20072841667	20070507
CA2841667 C	20150317	CA20072841667	20070507

Priority:

US20060797973P 20060505	WO2006CA00881 20060605	WO2006CA00882 20060605
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CA20072841667 20070507	CA20142714911 20140408	

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): DOBBS GEOFFREY ; MARCEAU PASCALE BONNIE ; SHEN ZHIYUAN ; MCLEAN ALISDAIR ALAN ; FEASBY D MICHAEL ; PLASCO TRAIL ROAD INC ; PLASCO CONVERSION TECHNOLOGIES INC ; ZOU XIAOPING ; WAGLER THOMAS EDWARD ; SWAIN MARGARET ; SONI NIPUN ; TSANGARIS ANDREAS ; BASHAM SCOTT DOUGLAS ; CAMPBELL KENNETH CRAIG ; CHOTALIYA ASHISH ; CUI MAO PEI

Inventor(s): (std): DOBBS GEOFFREY ; ZOU XIAOPING ; MARCEAU PASCALE BONNIE ; WAGLER THOMAS EDWARD ; SWAIN MARGARET ; CUI MAO PEI ; CHOTALIYA ASHISH ; SHEN ZHIYUAN ; SONI NIPUN ; MCLEAN ALISDAIR ALAN ; BASHAM SCOTT DOUGLAS ; TSANGARIS ANDREAS ; FEASBY D MICHAEL ; CAMPBELL KENNETH CRAIG

Inventor(s): FEASBY D

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

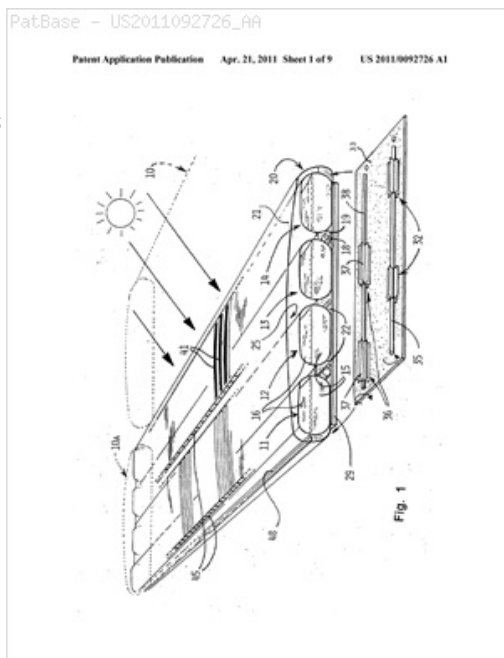
Title: SYSTEM FOR CULTIVATION AND PROCESSING OF MICROORGANISMS, PROCESSING OF PRODUCTS THEREFROM, AND PROCESSING IN DRILLHOLE REACTORS

Abstract: Described are methods of cultivating autotrophic microorganisms, particularly microalgae or diatoms, in a bioreactor by entraining a culture of the microorganisms in a tenuous, gelled, thixotropic carrier medium having nutrients therefor and moving the medium along a passage at a sufficiently slow speed to enable laminar flow which in cross section is closed and which has transparent walls through which the culture is irradiated to enable photosynthesis. The method includes effecting convective turnover of the culture and medium as they flow along the passage by differentially heating the medium laterally relative to the flow direction so as to produce a generally helical flow of the culture and medium. Also described are processing methods, both physical and chemical, performed underground e.g. in drillholes, to utilise decavitation energy under ambient elevated pressures, including processes to implement lysis of the micro-organisms, producing methanol, syngas synthesis, Haber ammonia synthesis, Fischer-Tropsch reactions, supercritical reactions, dimethyl ether synthesis, and nitric acid synthesis.

Classifications:

International (IPC 8-9): C01C1/04 C07C1/04 C07C67/02 C11B13/00 C12M1/00 C12M1/113 C12N1/12 C12N13/00 E21B43/00 (Advanced/Invention); C11B13/00 C11B7/00 (Advanced/Non-invention); C12M1/00 C12M1/107 C12N1/12 E21B43/00 (Core/Invention)
CPC: C12M23/04 C12M23/06 C12M23/22 C12M27/00 C12M27/06 C12M29/24 C12M41/12 C12N1/12 C07C67/02 C01C1/04 C07C1/04 C12M21/02 C12M23/26 C12M29/06 C12M41/00 C12M41/18 C12M43/02 C12M43/08 E21B43/16

European: C12M21/02 C12M23/04 C12M23/06 C12M23/22 C12M23/26 C12M27/00 C12M27/06 C12M29/06 C12M29/24 C12M41/00 C12M41/12 C12M41/18 C12M43/02 C12M43/08 E21B43/16
US: 423/359 435/173.7 435/173.8 435/173.800S 435/173.9 435/257.1 435/257.100S 518/700 554/124 554/169 554/174 554/175 554/175P 568/698 568/910



Family:

Publication number	Publication date	Application number	Application date
AU2011200090 AA	20110203	AU20110200090	20110112
AU2011200090 BB	20160107	AU20110200090	20110112
AU2016202159 AA	20160428	AU20160202159	20160406
US2011092726 AA	20110421	US20100928405	20101210
US2015072400 AA	20150312	US20140269354	20140505
US8715980 BB	20140506	US20100928405	20101210
WO09149519 A1	20091217	WO2009AU00750	20090612

Priority:

AU20080902944 20080612 WO2009AU00750 20090612 US20100928405 20101210
AU20110200090 20110112 US20140269354 20140505 AU20160202159 20160406

Probable Assignee: WINWICK BUSINESS SOLUTIONS PTY LTD

Assignee(s): (std): CLARKE WILLIAM SEVERN ; WINWICK BUSINESS SOLUTIONS PTY ; WINWICK BUSINESS SOLUTIONS PTY LTD

Inventor(s): (std): CLARKE WILLIAM SEVERN

Inventor(s): WILLIAM SEVERN CLARKE

Agent(s): PATENT ATTORNEY SERVICES; HENRY I; GRANT MICHAEL JOHN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

25) Family number: 42007241 (US2011067991A)

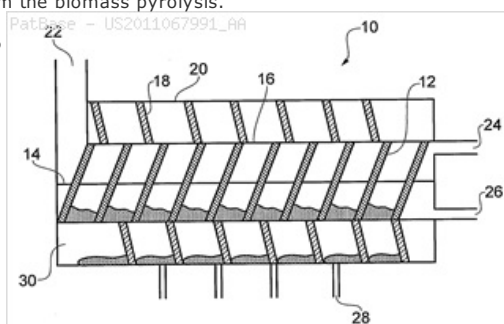
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Title: THERMAL TREATMENT OF BIOMASS

Abstract: A biomass pyrolysis process is provided in which biomass feedstock is mixed with a heat carrier. The heat carrier at least partly comprises char. The ratio by weight of biomass to char is in the range 1:1 to 1:20. The process may be carried out by in a screw/auger pyrolysis reactor in which the solid feedstock components are conveyed along the reactor by a first screw. A second screw conveys at least a portion of the solid products of the biomass pyrolysis back to a heat transfer medium input port. Thus, the heat transfer medium includes char from the biomass pyrolysis.

Classifications:

International (IPC 8-9): C07C1/00 C07C7/00 C10B15/00 C10B49/06 C10B49/16 C10B51/00 C10B53/00 C10B53/02 C10B7/10 C10J3/00 C10J3/20 C10J3/26 C10J3/66 (Advanced/Invention); C10B49/00 C10B51/00 C10B53/00 C10B7/00 C10J3/00 (Core/Invention)
CPC: C10B7/10 C10B49/16 C10B51/00 C10J3/20 C10J3/26 C10J3/66 C10J2200/09 C10J2300/0916 C10J2300/094 C10J2300/0956 Y02E50/14 C10J3/007 C10B53/02 Y02P20/145
European: C10B49/16 C10B51/00 C10B53/02 C10B7/10 C10J3/00F C10J3/20 C10J3/26 C10J3/66 M10J200/09 M10J300/09D2 M10J300/09D8 M10J300/09F2 Y02E20/18 Y02E50/14
US: 201/2.5 201/22 201/3 201/32 201/32P 202/117 202/118 202/211 202/211S 202/262 202/265 48/209 585/240



Family:

Publication number	Publication date	Application number	Application date
CY1115165 T1	20161214	CY20141100353T	20140519
DE602009022416 D1	20140424	DE200960022416T	20090514
DE602009034438 D1	20151203	DE200960034438T	20090514

DK2300560 T3	20140519	DK20090746074T	20090514
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HR20140518 T1	20140718	HR20140000518	20140604
IN06197DN2015 A	20160729	IN2015DN06197	20150715
IN270858 B	20160129	IN2010DN08811	20101209
PT2300560 T	20140513	PT20090746074T	20090514
SI2300560 T1	20140731	SI20090030951T	20090514
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WO09138757 A2	20091119	WO2009GB01225	20090514
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Priority:

GB20080008739 20080514 EP20090746074 20090514 EP20130175615 20090514
WO2009GB01225 20090514 US20100992654 20101115 IN2010DN08811 20101209
US20140339111 20140723

Probable Assignee: ASTON UNIV

Assignee(s): (std): APFELBACHER ANDREAS ; HORNUNG ANDREAS ; UNIV ASTON

Assignee(s): ASTON UNIV ; ASTON UNIVERSITY

Inventor(s): (std): HORNUNG ANDREAS ; APFELBACHER ANDREAS

Inventor(s): APFELBACHER ANDREAS BIRMINGHAM ; HORNUNG ANDREAS BIRMINGHAM ; ANDREAS APFELBACHER ; ANDREAS HORNUNG

Agent(s): LEINWEBER AND ZIMMERMANN; GEE RACHEL SARAH; OXLEY RACHEL LOUISE; VALLEJO JUAN PEDRO; ALSTON AND BIRD LLP; NAYLOR MATTHEW

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

26) Family number: 43296363 (US2009232725A)

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Title: FLOW RATE OF GAS IN FLUIDIZED BED DURING CONVERSION OF CARBON BASED MATERIAL TO NATURAL GAS AND ACTIVATED CARBON

Abstract: A method of processing carbonaceous material into gas and activated carbon, comprising the steps of placing feedstock onto a fluidized bed; directing non-oxygenated gas through the fluidized bed; adjusting a velocity of the gas such that the gas is slow enough to leave the feedstock on the fluidized bed and fast enough to remove activated carbon and volatiles.

Classifications:

International (IPC 8-9): C01B31/08 C01B31/10 C01B32/05 C10B1/02 C10B1/04 C10B47/22 C10B49/08 C10B51/00 C10G47/00 C10J3/50 C10J3/80 C10L3/08 C10L5/44

C10L5/46 (Advanced/Invention);

C07C7/00 (Advanced/Non-invention);

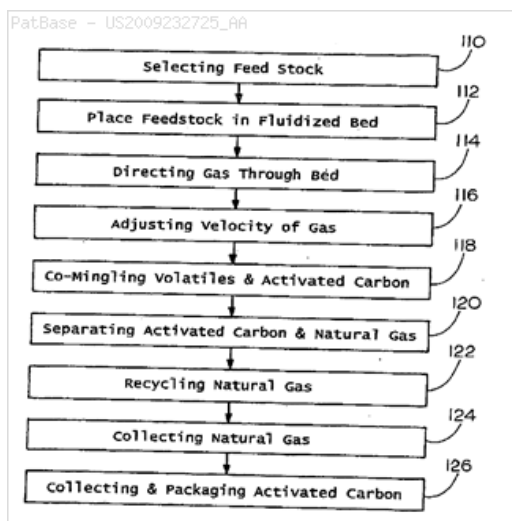
C01B31/00 C10G47/00 (Core/Invention);

C07C7/00 (Core/Non-invention)

CPC: C10G1/02 C10G2400/04 C10L5/44 C10J3/503 C10J3/80 C10J2200/156 C10J2300/0909 C10J2300/092 C10J2300/0923 C10J2300/093 C10J2300/0946 C10J2300/0989 C10L5/46 Y02E50/10 Y02E50/30 C01B32/39 B01J20/20 C10B47/22 C01B32/05 C10B1/04 C10B49/08 C10B51/00 C10L3/08

European: B01J20/20 C01B31/02 C01B31/08R C10B1/04 C10B47/22 C10B49/08 C10B51/00 C10G1/02 C10J3/50B C10J3/80 C10L3/08 C10L5/44 C10L5/46 M10G400/04 M10J200/15F M10J300/09B4 M10J300/09D14 M10J300/09D2B M10J300/09D2D M10J300/09D6 M10J300/09H4 Y02E50/10 Y02E50/30

US: 202/105 423/461 423/461P 585/833 585/833S



Family:

Publication number	Publication date	Application number	Application date
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CN101918309 A	20101215	CN200980102080	20091105
CN102317204 A	20120111	CN200980102079	20091106
EP2367757 A1	20110928	EP20090825119	20091105
US2009232725 AA	20090917	US20080291188	20081106
US2010055026 AA	20100304	US20090590391	20091105
US2011180382 AA	20110728	US20100925488	20101021

US2018002625 AA	20180104	US20170594369	20170512
US9688934 BB	20170627	US20090590391	20091105
US10030199 BB	20180724	US20100925488	20101021
US10119087 BB	20181106	US20170594369	20170512
WO09067266 A1	20090528	WO2008US13044	20081122
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WO10053564 A1	20100514	WO2009US05999	20091106

Priority:

US20070004082	20071123	US20070004082P	20071123	US20080137213	20080728
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US20090590391	20091105	WO2009US05987	20091105	WO2009US05999	20091106
US20100341883P	20100406	US20100341883P	20100408	US20100925488	20101021
US20170594369	20170512				

Probable Assignee: BIXBY ENERGY SYSTEMS INC

Assignee(s): (std): AARON SHERMAN ; BIXBY ENERGY SYSTEMS INC ; CATTO MICHAEL ; FRIEDERICH N PAUL ; WALKER ROBERT ; VAN THORRE DOUG ; HAYWARD DAVID E

Assignee(s): GLOBAL PARTNERS UNITED LLC ; FRIEDERICH N

Inventor(s): (std): CATTO MICHAEL ; WALKER ROBERT ; VAN THORRE DOUG ; FRIEDERICH N PAUL ; AARON SHERMAN ; SHERMAN AARON ; HAYWARD DAVID E

Inventor(s): FRIEDERICH N

Agent(s): ADAMS PLUCK; METTEN KARL HEINZ; ANGENEHM LAW FIRM LTD; FISH AND RICHARDSON PC; FRIEDERICH N PAUL; FRIEDERICH N PAUL N

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

27) Family number: 58582858 (US2015052805A)

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Title: OXYGEN-DEFICIENT THERMALLY PRODUCED PROCESSED BIOCHAR FROM BENEFICIATED ORGANIC-CARBON-CONTAINING FEEDSTOCK

Abstract: A renewable processed biochar composition made with an oxygen-deficient thermal sub-system from a processed organic-carbon-containing feedstock made with a beneficiation sub-system is described. Renewable biomass feedstock passed through a beneficiation sub-system to reduce water content to below at least 20 wt percent and water-soluble salt reduction of at least 60 percent from that of unprocessed organic-carbon-containing feedstock on a dry basis. The processed feedstock is introduced into an oxygen-deficient thermal sub-system to result in renewable processed biochar having an energy density of at least 17 MMBTU/ton (20 GJ/MT) a water content of less than 10 wt percent, and water-soluble salt that is decreased by at least 60 wt percent on a dry basis from that of the unprocessed organic-carbon-containing feedstock.

Classifications:

International (IPC 8-9): B01D3/34 B01D53/00 B09B3/00 B60Q1/00 B60Q1/26 C07C1/00 C10B19/00 C10B27/00 C10B47/00 C10G1/00 C10G1/02 C10J3/72 C10L C10L1/04 C10L3/00 C10L3/06 C10L5/00 C10L5/04 C10L5/08 C10L5/14 C10L5/26 C10L5/36 C10L5/40 C10L5/42 C10L5/44 C10L5/46 C10L9/00 C10L9/02 C10L9/08 D21B1/02 D21C9/08 D21C9/18 F21S8/10 F23B10/00 F23B30/00 F23B40/00 F23B40/02 F23B50/12 F23C1/06 F23C6/04 F23C99/00 F23D1/00 F23D17/00 F23G5/027 F23G5/033 F23G5/04 F23G5/08 F23G5/14 F23G7/10 F23J15/00 F23J15/02 F23J99/00 (Advanced/Invention); C10J3/72 (Advanced/Non-invention)

CPC: C10L3/00 C10J2300/0916 C10J2300/092 C10L2290/04 C10J3/72 C10L2290/24 B01D3/34 C10L2200/0469 C10L5/42 C10L2290/46 F23D1/00 F23G5/08 F23G5/033 F23J15/02 F23G5/14 C10L5/14 C10L2290/544 C10G3/42 F23B50/12 D21B1/021 D21C9/18 F23B2700/023 C10L5/02 C10L9/086 Y02P30/20 Y02P20/145 C10L5/445 C10L2290/06 C10L2290/08 C10L2290/48 C10L3/08 C10L5/361 C10L2290/02 C10L2290/36 F23C1/06 F23C6/042 F23C99/00 F23C2900/01001 C10B19/00 C10L5/04 C10L1/02 C10G1/02 C10L2290/146 C10L2290/148 C10L2290/30 F23B10/00 F23D2204/00 C10L5/442 D21C9/08 C10L5/08 C10L5/44 C10L5/143 C10L5/366 C10L9/00 F23G5/0273 F23G7/10 F23G2201/40 F23G2204/203 F23B2700/018 F23G5/0276 F23G5/04 F23G2201/702 F23J2215/50 C10L5/363 C10L9/08 C10L2290/28 C10L2290/54 C10L2290/545 Y02E50/10 Y02E50/30 C10L5/447 Y02E20/14 Y02E50/11

US: 1/1 110/203 110/232 110/345 110/347 162/56 201/19 201/2.5 201/21 422/187 44/589 44/590 44/596 44/635 48/197FM 585/16

Family:

Publication number	Publication date	Application number	Application date
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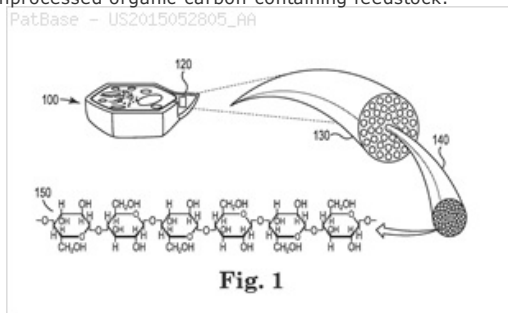


Fig. 1

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Priority:

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Probable Assignee: CTP BIOTECHNOLOGY LLC

Assignee(s): (std): CATTO MICHAEL L ; CTP BIOTECHNOLOGY LLC ; SCALZO PHILIP ; TAIT CARLETON ; VAN THORRE DOUGLAS M ; TAIT CARLETON DREW ; SCALZO PHILIP JAMES ; BIOMASS ENERGY ENHANCEMENTS LLC

Assignee(s): CATTO MICHAEL ; VAN THORRE DOUGLAS

Inventor(s): (std): SCALZO PHILIP ; TAIT CARLETON ; VAN THORRE DOUGLAS ; CATTO MICHAEL ; THORRE DOUGLAS M VAN ; CARLETON TAIT ; PHILIP SCALZO ; DREW TAIT CARLETON ; CARLETON DREW TAIT ; DOUGLAS M VAN THORRE ; MICHAEL L CATTO ; SALZO PHILIP ; VAN THORRE DOUG M ; SCALZO PHILIP JAMES ; CATTO MICHAEL L ; TAIT CARLETON DREW ; VAN THORRE DOUGLAS M

Inventor(s): VAN THORREDOUGLAS M ; CATTOMICHAEL L ; TAITCARLETON ; SALZOPHILIP

Agent(s): CHURCHILL ATTORNEYS; RIDOUT AND MAYBEE LLP; LANE CATHAL MICHAEL; TOMKINS AND CO; PARDOMUAN OLOAN LUBIS; STEPHEN F; BERGGREN LAW OFFICES LLC; WILLIAM B; WILLIAM R; WILLIAM G; BERGGREN WILLIAM; BERGGREN WILIAM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

28) Family number: 47532982 (US2013309161A)

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Title: AMMONIA PRODUCTION BY INTEGRATED INTENSIFIED PROCESSES

Abstract: An ammonia production process is disclosed. The process uses gasification of biomass waste and the like to produce syngas which, using an integrated system including using nitrogen enriched air and a porous coated catalyst, produces ammonia in a plasma reactor. The ammonia is finally recovered using sulphonated PolyHIPE Polymer which can be used as a fertilizer after neutralisation.

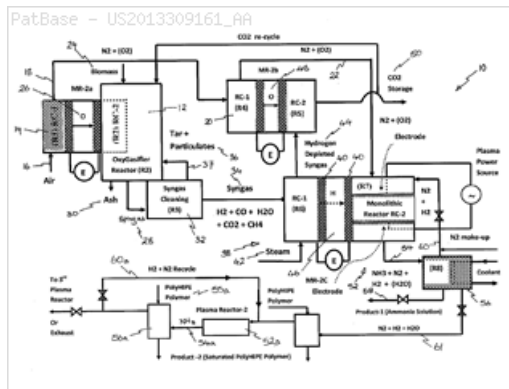
Classifications:

International (IPC 8-9): B01J23/75 B01J23/755 B01J37/02 C01B C01B21/04 C01B3/02 C01B3/56 C01C C01C1/04 C01C1/12 C01J C10J3/00 C10J3/22 C10J3/30 C10J3/42 (Advanced/Invention); C01B C01C (Subclass/Invention)

CPC: C01C1/0405 C01B3/025 C01B2203/04 C01B2203/0405 C01B2203/047 C01B2203/0475 C01B2203/048 C01B2203/0495 C01B2203/068 C01C1/0494 C10J3/22 C10J3/30 C10J3/42 C10J2200/156 C10J2200/158 C10J2300/0916 C10J2300/0956 C10J2300/0959 C10J2300/0969 C10J2300/1612 C10J2300/1668 C10J2300/1678 C10J2300/1815 Y02P20/145 Y10T428/2991 Y02P20/52

European: C01B3/02B C01C1/04G M01B203/04 M01B203/04B M01B203/04P12 M01B203/04P2 M01B203/04P4 M01B203/04P6 M01B203/06J

US: 1/1 422/148 422/310 423/358 428/403 502/100 502/340



Family:

Publication number	Publication date	Application number	Application date
AU2011294911 AA	20120301	AU20110294911	20110830
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JP2013540678 T2	20131107	JP20130525366T	20110830
SG188284 A1	20130430	SG20130013727	20110830
US2013309161 AA	20131121	US20110819212	20110830
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WO12025767 A2	20120301	WO2011GB51620	20110830
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ZA201301900 A	20140827	ZA20130001900	20110830
ZA201402184 A	20150429	ZA20140002184	20110830
ZA201402185 A	20150429	ZA20140002185	20110830

Priority:

GB20100014304 20100827 WO2011GB51620 20110830

Probable Assignee: OF NEWCASTLE UPON TYNE UNIV

Assignee(s): (std): AKAY GALIP ; NEWCASTLE UNIV ; UNIV NEWCASTLE ; UNIV OF NEWCASTLE UPON TYNE

Assignee(s): OF NEWCASTLE UNIV ; OF NEWCASTLE UPON TYNE UNIV ; UNIVERSITY OF NEWCASTLE UPON TYNE

Inventor(s): (std): AKAY GALIP

Inventor(s): GALIP AKAY

Agent(s): GOLJA HAINES AND FRIEND; ARCHER GRAHAM JOHN; OSHA LIANG LLP; ARCHER GRAHAM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: A SYSTEM COMPRISING THE GASIFICATION OF FOSSIL FUELS TO PROCESS UNCONVENTIONAL OIL SOURCES

Abstract: A facility comprising integrated systems for the extraction, and optionally upgrading and/or refinement, of unconventional oil sources, using fossil fuels as a primary source of energy. In particular, this facility provides a means to gasify one or more fossil fuels in an efficient manner, converting it into intermediate products such as heat, steam and electricity, which are then used by the system to obtain useful fuel products from unconventional oil sources such as tar sands and oil shale. The design of the components of this facility is optimized such that the overall costs are competitive with an equivalent unconventional oil source processing facility that uses natural gas as a source of processing energy. The facility can be used on its own, may use supplemental natural gas energy sources, or may be used in conjunction with an existing facility that uses natural gas as an energy source in order to improve the overall cost effectiveness of the processing and/or reduce the requirement for other energy sources, such as natural gas.

Classifications:

International (IPC 8-9): C10C3/00 C10G1/04 C10J3/00

C10J3/72 (Advanced/Invention);

C10C3/00 C10G1/00 C10J3/00 (Core/Invention)

International (IPC 1-7): F23G5/38

CPC: C10J3/32 C01B2203/84 C10G1/002 C10G2/30 C10J3/34

C10J3/466 C10J3/482 C10J3/523 C10J3/86 C10J2300/0956

C10J2300/0959 C10J2300/0973 C10J2300/0989 C10J2300/1238

C10J2300/165 C10J2300/1659 C10K1/04 C10K1/101 F01K23/068

Y02E20/18

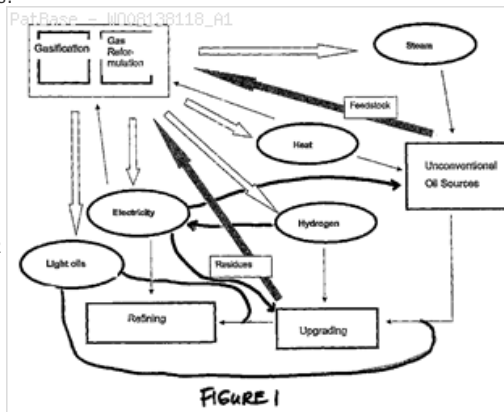
European: C10G1/00B C10G2/30 C10J3/32 C10J3/34 C10J3/46D

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Y02E20/16 Y02E20/18 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
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WO08138118 A1	20081120	WO2008CA00883	20080512

Priority:

US20070917410P 20070511

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WO2007US70456 20070605

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US20070986212P 20071107

US20070986213P 20071107

WO2008CA00355 20080227

US20080042571P 20080404

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; PLASCO ENERGY GROUP INC ; TSANGARIS ANDREAS

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEM COMPRISING THE GASIFICATION OF FOSSIL FUELS TO PROCESS UNCONVENTIONAL OIL SOURCES

Abstract: A facility comprising integrated systems for the extraction, and optionally upgrading and/or refinement, of unconventional oil sources, using fossil fuels as a primary source of energy. In particular, this facility provides a means to gasify one or more fossil fuels in an efficient manner, converting it into intermediate products such as heat, steam and electricity, which are then used by the system to obtain useful fuel products from unconventional oil sources such as tar sands and oil shale. The design of the components of this facility is optimized such that the overall costs are competitive with an equivalent unconventional oil source processing facility that uses natural gas as a source of processing energy. The facility can be used on its own, may use supplemental natural gas energy sources, or may be used in conjunction with an existing facility that uses natural gas as an energy source in order to improve the overall cost effectiveness of the processing and/or reduce the requirement for other energy sources, such as natural gas.

Classifications:

International (IPC 8-9): C10G35/00 C10G35/24 (Advanced/Invention);

C10G35/00 (Core/Invention)

CPC: C10J3/32 C01B2203/84 C10G1/002 C10G2/30 C10J3/34

C10J3/466 C10J3/482 C10J3/523 C10J3/86 C10J2300/0956

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C10J2300/165 C10J2300/1659 C10K1/04 C10K1/101 F01K23/068

Y02E20/18

European: C10G1/00B C10G2/30 C10J3/32 C10J3/34 C10J3/46D

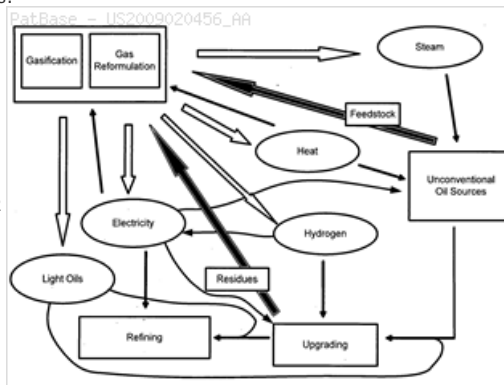
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Y02E20/16 Y02E20/18 Y02E50/32

US: 208/133 422/105 422/105S



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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US20070950322P 20070717 US20070986213P 20071107 US20070986212P 20071107
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Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; TSANGARIS ANDREAS

Assignee(s): CANADIAN WATER PROJECTS INC ; NORTH SHORE POWER GROUP INC ; PLASCO ENERGY GROUP INC

Inventor(s): (std): BACON MARC ; TSANGARIS ANDREAS

Agent(s): MCANDREWS HELD AND MALLOY LTD

31) Family number: 63731745 (EP3078727B1)

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Title: A CYCLONE GASIFIER CYCLONE GAZEIFIC

Abstract: The present inventive concept relates to a cyclone gasifier comprising: a gasification chamber, a first and a second inlet, and a syngas exit pipe arranged at least partly inside the gasification chamber. The first inlet is arranged and configured to inject a first mixture of oxidant and particulate fuel into the gasification chamber such that a first swirling flow of the first mixture is established and allowed to propagate through at least a part of the gasification chamber. The second inlet is arranged and configured to inject a second mixture of oxidant and particulate fuel into the gasification chamber such that a second swirling flow of the second mixture is established and allowed to propagate through at least a part of the gasification chamber. The second swirling flow is at least partly offset in its propagation compared to the first swirling flow.

Classifications:

International (IPC 8-9): C10J3/48 C10K1/02

C10K1/18 (Advanced/Invention)

CPC: C10J3/487 C10J2200/152 C10J2200/39 C10J2300/1884
C10K1/026 C10K1/18

PatBase - EP3078727_R1

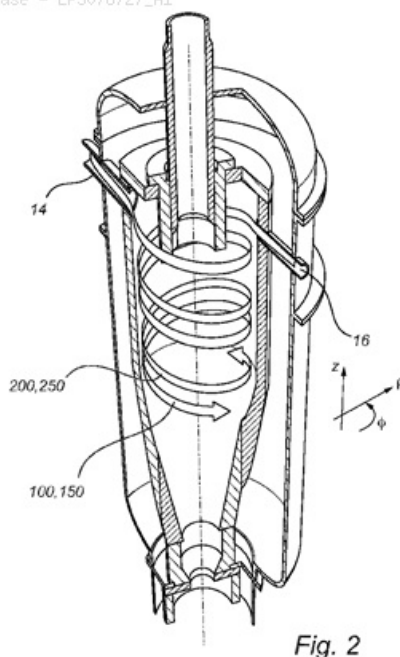


Fig. 2

Family:

Publication number	Publication date	Application number	Application date
DE602015008227 D1	20180329	DE201560008227T	20150410
EP3078727 A1	20161012	EP20150163203	20150410
EP3078727 B1	20180228	EP20150163203	20150410

Priority:

EP20150163203 20150410

Probable Assignee: MEVA ENERGY AB

Assignee(s): (std): MEVA ENERGY AB

Inventor(s): (std): DAVIDSSON NICLAS ; WINGREN ANDERS

Agent(s): AWAPATENT AB

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

32) Family number: 47540370 (CN102057222A)

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Title: GASIFICATION SYSTEM WITH PROCESSED FEEDSTOCK/CHAR CONVERSION AND GAS REFORMULATION

Abstract: The invention provides a system designed for the complete conversion of carbonaceous feedstock into syngas and slag. The system comprises a primary chamber for the volatilization of feedstock generating a primary chamber gas (an offgas); a secondary chamber for the further conversion of processed feedstock to a secondary chamber gas (a syngas) and a residue; a gas- reformulating zone for processing gas generated within one or more of the chambers; and a melting chamber for vitrifying residue. The primary chamber comprises direct or indirect feedstock additive capabilities in order to adjust the carbon content of the feedstock. The system also comprises a control system for use with the gasification system to monitor and regulate the different stages of the process to ensure the efficient and complete conversion of the

carbonaceous feedstock into a syngas product.

Classifications:

International (IPC 8-9): A62D3/40 B09B3/00 C01B3/02 C01B31/18 C01B32/40 C02F1/02 C02F11/10 C10J3/00 F23G5/027 F23G5/38 (Advanced/Invention)

CPC: C01B3/342 C01B3/22 C01B2203/0216 C01B2203/0272 C01B2203/0861 C01B2203/84 C10J3/00 C10J3/20 C10J3/32 C10J3/34 C10J3/42 C10J3/482 C10J3/485 C10J3/523 C10J3/66 C10J3/721 C10J3/82 C10J2200/09 C10J2300/0916 C10J2300/093 C10J2300/094 C10J2300/0946 C10J2300/0956 C10J2300/0973 C10J2300/1606 C10J2300/1634 C10J2300/165 C10J2300/1675 C10J2300/1687 C10J2300/1869 C10J2300/1884 F23G5/027 F23G5/50 F23G7/10 F23G2202/102 F23G2202/103 F23G2202/104 F23G2203/8013 F23G2203/803 F23G2203/805 F23G2204/103 F23G2204/201 F23J7/00 F23L15/04 Y02W10/37 Y02P20/145 Y02E20/348

European: C01B3/22 C01B3/34G C10J3/00 C10J3/20 C10J3/32 C10J3/34 C10J3/42 C10J3/48B C10J3/48D C10J3/52B C10J3/66 C10J3/72B C10J3/82 F23G5/027 F23G5/50 F23G7/10 F23J7/00 F23L15/04 M01B203/02B2B M01B203/02F2 M01B203/08B10 M01B203/84 M10J200/09 M10J300/09D14 M10J300/09D2 M10J300/09D6 M10J300/09D8 M10J300/09F14 M10J300/09F2 M10J300/16B2 M10J300/16D2D M10J300/16F2D M10J300/16K2 M10J300/16S M10J300/18M2 M10J300/18M6 R23G202/102 R23G202/103 R23G202/104 R23G203/801A R23G203/803 R23G203/805 R23G204/103 R23G204/201 Y02E20/18 Y02E50/32

PatBase - CN102057222_A

CN 102057222 A 说明书附图 1/68 页



图 1

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Family:

Publication number	Publication date	Application number	Application date
CA2716912 AA	20080904	CA20082716912	20080227
CA2716912 C	20140617	CA20082716912	20080227
CN102057222 A	20110511	CN200880128872	20080227
CN102057222 B	20130821	CN200880128872	20080227

Priority:

US20070891749P 20070227	US20070891754P 20070227	US20070891807P 20070227
US20070891768P 20070227	WO2007US68405 20070507	WO2007US68407 20070507
US20070917395P 20070511	WO2007US70456 20070605	US20070986127P 20071107
WO2008CA00355 20080227		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): TSANGARIS ANDREAS ; BACON MARC ; PLASCO CONVERSION TECHNOLOGIES INC

Inventor(s): (std): MARC BACON ; ANDREAS TSANGARIS ; TSANGARIS ANDREAS ; BACON MARC

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

33) Family number: 11337695 (US5425792A)

© PatBase

Title: METHOD FOR GASIFYING ORGANIC MATERIALS

Abstract: A process and apparatus for gasification of organic materials (typically incorporated in domestic and industrial wastes, including auto shredder residues) to produce useful synthesis gas (primarily CO and H₂) with effectively non-toxic ash residue by means of a preferably stoichiometric burner directed into a single stage reactor containing a tumbling charge thus heated to 650 DEG to 800 DEG C. (below the incipient fusion temperature of the charge) resulting in thermally cracking and gasifying the organic materials in the charge and reacting the complex hydrocarbons and gas evolved with the CO₂ and H₂O generated by the burner by combustion of a fuel and oxygen-containing gas at a high flame temperature, typically 2500 DEG to 3000 DEG C.

Classifications:

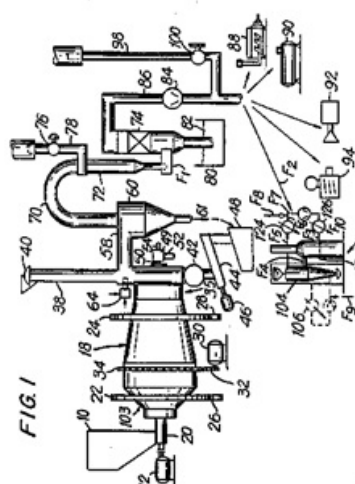
International (IPC 8-9): B09B3/00 C10J3/00 C10J3/02 C10J3/06 C10J3/14 C10J3/66 (Advanced/Invention); C10J3/00 C10J3/02 (Core/Invention)

International (IPC 1-7): B09B3/00 C10B1/10 C10J3/00 C10J3/02 C10J3/06 C10J3/14 C10J3/60 C10J3/66 C22B1/00

CPC: C10J3/005 C10K1/003 C10K1/02 C10K1/026 C10J2200/152 C10J2300/0959 C10K1/101 C10J2200/158 C10J2300/0946 C10J2300/1223 C10J2300/1621 C10J2300/165 C10J2300/1687 C10J2300/1693 C10J2300/1606 C10K1/08 C10J3/002 C10J3/06 C10J3/14 C10J3/66 Y02P20/145

European: C10J3/00B C10J3/06 C10J3/14 C10J3/66

US: 252/373 422/209 422/233 48/122 48/187 48/189.5 48/197.00R 48/197R 48/203 48/206 48/209 48/211 75/493 75/505

**Family:**

Publication number	Publication date	Application number	Application date
CA2095665 AA	19931108	CA19932095665	19930506
DE69331450 D1	20020221	DE19936031450	19930505
DE69331450 T2	20020919	DE19936031450T	19930505
EP0568997 A1	19931110	EP19930107296	19930505
EP0568997 B1	20020116	EP19930107296	19930505
JP6073384 A2	19940315	JP19930101532	19930427
MX9302687 A1	19931201	MX19930002687	19930506
MX9710423 A1	19980329	MX19970010423	19960607
US5425792 A	19950620	US19930158195	19931124
US5656044 A	19970812	US19950486372	19950607
US5851246 A	19981222	US19950486371	19950607
WO9640843 A1	19961219	WO1996US09628	19960607

Priority:

US19920879608 19920507 CA19932095665 19930506 US19930158195 19931124
 US19950486372 19950607 US19950486371 19950607 WO1996US09628 19960607

Probable Assignee: DURATEK INC**Assignee(s):** (std): HYLSA SA ; GTS DURATEK INC ; PUROOLA INBAIRONMENTARU SAABIS ; PROLER ENVIRONMENTAL SERVICES ; PROLER ENVIROMENTAL SERVICES I**Assignee(s):** VIRAMONTES BROWN RICARDO ; HYLSA S A DE C V SAN NICOLAS DE LOS GARZA ; PROLER ENVIRONMENTAL SERVICES INC ; PUROOLA INBAIRONMENTARU SAABISUZU INC ; PROLER ENVIROMENTAL SERVICES INC ; BISHOP NORMAN G ; CHEM NUCLEAR SYSTEMS LLC ; CITICORP NORTH AMERICA INC ; CITICORP NORTH AMERICA INC ADMINISTRATIVE AND COLL ; CITICORP NORTH AMERICA INC ADMINISTRATIVE AND COLLATERAL AGENT AS ; CITICORP NORTH AMERICA INC COLLATERAL AGENT AS ; DURATEK INC ; HYLSA DE CV AVE MUNICH 101SAN NICOLAS DE LOS GARZA ; HYLSA DE CV MUNICH 101SAN NICOLAS DE LOS GARZA 664 ; HYLSA SA DE CV ; HYLSA S A DE C V ; DURATEK SERVICES INC ; ENERGYSOLUTIONS DIVERSIFIED SERVICES INC ; ENERGYSOLUTIONS LLC ; JPMORGAN CHASE BANK NA ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; HYLSA DE CV SA**Inventor(s):** (std): BISHOP NORMAN G ; BROWN RICARDO VIRAMONTES ; VIRAMONTES BROWN RICARDO ; RIKAAO BIRAMONTESUUBURAUN ; NOOMAN JII BISHIYOTSUPU**Inventor(s):** NORMAN G BISHOP ; RICARDO VIRAMONTES BROWN**Agent(s):** SMART AND BIGGAR**Designated states:** AT BE CA CH DE DK ES FI FR GB GR IE IT JP LU MC MX NL PT SE**34) Family number: 43868213** (US2011023485A)

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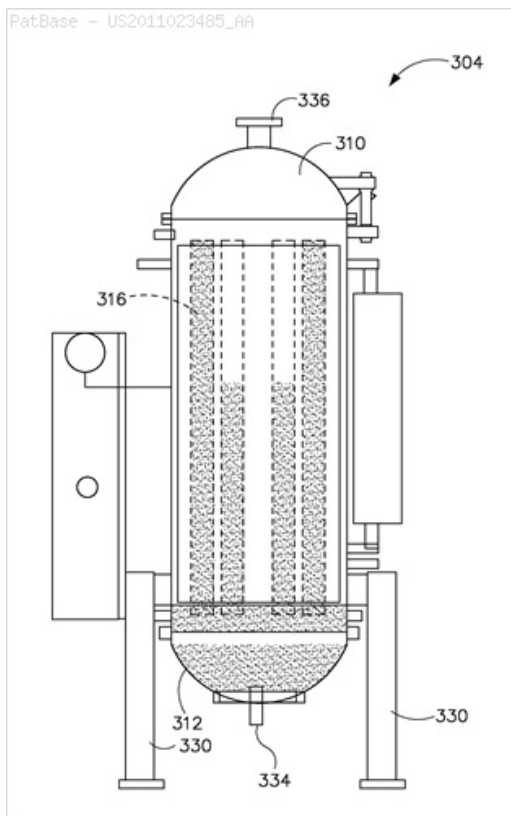
Title: WATER RECLAMATION SYSTEM AND METHOD

Abstract: A system reclaiming contaminated water includes a heat exchanger that receives the contaminated water and converts at least a portion of the contaminated water into steam and collects at least a portion of the contaminants within the heat exchanger. A thermal transfer fluid is heated by a solar concentrator during daytime and by a biofuel combustion device during nighttime. The heated fluid is circulated through the heat exchanger to heat the contaminated water. A steam engine is coupled to a generator, the steam engine receives the steam from the heat exchanger to drive the generator to provide power for the system. Steam exhausted from the steam engine is supplied to supplemental heat loads. The collected contaminants are directed to an evaporation device to remove residual liquid.

Classifications:

International (IPC 8-9): B01D1/00 B01D3/02 B01D3/14 B63J4/00
 C02F1/00 C02F1/04 C02F1/14 C02F103/10 C02F103/20 C02F103/32

C02F3/28 C02F9/00 C07C29/80 F01B31/00 F01K13/00 F01K17/00
F01K17/04 F01K23/10 F01K25/00 F01K25/06 F01K3/18 F01K7/34
F01K7/38 F01K9/00 F03G6/02 F22D1/02 F23B60/02 F23B80/02
F23B90/04 F24J2/04 F26B19/00 F28B5/00
F28D7/16 (Advanced/Invention);
C02F1/14 C02F103/10 C02F103/20 C02F103/32 (Advanced/Non-
invention);
B01D1/00 C02F1/14 C12N15/87 C12N9/22 F03G6/00
F24J2/04 (Core/Invention)
CPC: F01K13/00 F28B5/00 F28D7/16 F23B60/02 F23B80/02
F23B90/04 C02F3/28 C02F2103/10 C02F2103/32 C02F2103/322
C02F2103/325 C02F2103/327 C02F2201/009 C02F2303/10
F01K17/00 Y02W10/30 C02F1/048 Y02E10/46 C02F1/14 C02F9/00
C02F2103/20 F01K3/18 F01K9/003 F01K23/10 Y02W10/37
Y02A20/212
European: C02F1/04Z C02F1/14 C02F9/00 C12N15/90B4 C12N9/22
F01K23/10 F01K3/18 F01K9/00B M02F1/04Z M02F1/14 M02F103/20
M12N799/02 M12N799/02A67 M12N800/80 Y02E10/46
US: 34/90 60/641.9 60/641.900P 60/648 60/648P 60/657 60/657S
60/670 60/670S 60/671 60/676 60/676S



Family:

Publication number	Publication date	Application number	Application date
CN102056847 A	20110511	CN200980121960	20090414
CN102056847 B	20130605	CN200980121960	20090414
DE602009026430 D1	20141016	DE200960026430T	20090414
DE602012040777 D1	20180118	DE201260040777T	20120710
EP2265550 A2	20101229	EP20090733547	20090414
EP2265550 B1	20140903	EP20090733547	20090414
EP2546478 A2	20130116	EP20120175670	20120710
EP2546478 A3	20140611	EP20120175670	20120710
EP2546478 B1	20171213	EP20120175670	20120710
ES2662357 T3	20180406	ES20120175670T	20120710
US2011023485 AA	20110203	US20090937173	20090414
US2011265474 AA	20111103	US20110182040	20110713
US2014283517 AA	20140925	US20140294939	20140603
US2018093902 AA	20180405	US20170833745	20171206
US2018201518 AA	20180719	US20180922099	20180315
US2018370815 AA	20181227	US20180114131	20180827
US8661819 BB	20140304	US20090937173	20090414
US8776522 BB	20140715	US20110182040	20110713
US9862620 BB	20180109	US20140294939	20140603
US9988283 BB	20180605	US20170833745	20171206
US10081556 BB	20180925	US20180922099	20180315
WO09129233 A2	20091022	WO2009US40516	20090414
WO09129233 A3	20091210	WO2009US40516	20090414

Priority:

US20080124247P 20080415	US20080192061P 20080912	US20090209765P 20090311
EP20090733547 20090414	US20090937173 20090414	WO2009US40516 20090414
US20100937173 20101008	US20110182040 20110713	EP20120175670 20120710
US20140294939 20140603	US20170833745 20171206	US20180922099 20180315
US20180114131 20180827		

Probable Assignee: COMBINED SOLAR TECHNOLOGIES INC

Assignee(s): (std): COMBINED SOLAR TECH INC ; COMBINED SOLAR TECHNOLOGIES INC ; COMBINED SOLAR TECHNOLOGIES LL ; SCHUBERT FRANK ; COMBINED SOLAR TECHNOLOGIES LLC ; MORNINGSIDE VENTURE INVESTMENTS LTD ; MORNINGSIDE VENTURE INVEST LTD

Assignee(s): COMBINED SOLAR TECHNOLOGIES LLC PACIFIC GROVE ; COMBINED SOLAR TECHNOLOGIES INC TRACY

Inventor(s): (std): SCHUBERT FRANK ; FRANK SCHUBERT

Inventor(s): SCHUBERT FRANK TRACY

Agent(s): UEXKUELL AND STOLBERG; UEXKUELL AND STOLBERG PARTNERSCHAFT VON PATENT U RECHTSANWALTEN MBB; CARVAJAL Y ISABEL; FOLEY AND LARDNER LLP; LAZARUS JOHN M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Family:

Publication number	Publication date	Application number	Application date
IN06082CN2010 A	20110513	IN2010CN06082	20100927
JP2011513516 T2	20110428	JP20100547923T	20080227
JP5547659 B2	20140716	JP20100547923T	20080227

Priority:

US20070891749P 20070227	US20070891754P 20070227	US20070891807P 20070227
US20070891768P 20070227	WO2007US68405 20070507	WO2007US68407 20070507
US20070917395P 20070511	WO2007US70456 20070605	US20070986127P 20071107
WO2008CA00355 20080227		

Probable Assignee: PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH

Assignee(s): PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH

Inventor(s): ANDREAS TSANGARIS ; MARC BACON

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

37) Family number: 47630084 (CA2714911A)

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Title: A LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid waste (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

Classifications:

International (IPC 8-9): C10J1/207 C10J3/20 C10J3/72

F23G5/027 (Advanced/Invention)

CPC: Y02P20/129 C10J3/84 C10J3/20 C10J3/482 C10J3/723

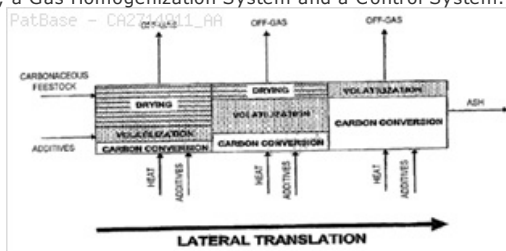
C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/1223

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F23G5/027 F23G5/085 F23G2204/201 F23G2209/262 F23J7/00

F23J2219/70 Y02E20/12 Y02E20/18 Y02E50/32 Y02P20/13

European: Y02E20/12

**Family:**

Publication number	Publication date	Application number	Application date
CA2714911 AA	20080124	CA20072714911	20070507

Priority:

US20060797973P 20060505	WO2006CA00881 20060605	WO2006CA00882 20060605
US20060864116P 20061102	US20070911179P 20070411	CA20072651449 20070507
CA20072714911 20070507	CA20102651449 20101007	

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): DOBBS GEOFFREY ; MARCEAU PASCALE BONNIE ; SWAIN MARGARET ; FEASBY DOUGLAS MICHAEL ; SHEN ZHIYUAN ; SONI NIPUN ; MCLEAN ALISDAIR ALAN ; WAGLER THOMAS EDWARD ; ZOU XIAOPING ; TSANGARIS ANDREAS ; BASHAM SCOTT DOUGLAS ; CAMPBELL KENNETH CRAIG ; CHOTALIYA ASHISH ; CUI MAO PEI

Inventor(s): (std): SWAIN MARGARET ; FEASBY DOUGLAS MICHAEL ; TSANGARIS ANDREAS ; WAGLER THOMAS EDWARD ; MARCEAU PASCALE BONNIE ; SHEN ZHIYUAN ; MCLEAN ALISDAIR ALAN ; CUI MAO PEI ; SONI NIPUN ; ZOU XIAOPING ; CAMPBELL KENNETH CRAIG ; DOBBS GEOFFREY ; CHOTALIYA ASHISH ; BASHAM SCOTT DOUGLAS

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

38) Family number: 43929118 (WO08104058A1)

© PatBase

Title: GASIFICATION SYSTEM WITH PROCESSED FEEDSTOCK/CHAR CONVERSION AND GAS REFORMULATION

Abstract: The invention provides a system designed for the complete conversion of carbonaceous feedstock into syngas and slag. The system comprises a primary chamber for the volatilization of feedstock generating a primary chamber gas (an offgas); a secondary chamber for the further conversion of processed feedstock to a secondary chamber gas (a syngas) and a residue; a gas- reformulating zone for processing gas generated within one or more of the chambers; and a melting chamber for vitrifying residue. The primary chamber comprises direct or indirect feedstock additive capabilities in order to adjust the carbon content of the feedstock. The system also comprises a control system for use with the gasification system to monitor and regulate the different stages of the process to ensure the efficient and complete conversion of the carbonaceous feedstock into a syngas product.

Classifications:

International (IPC 8-9): A62D3/40 B09B3/00 C01B3/02 C01B31/18

C01B32/40 C02F1/02 C02F11/10 C10J3/00 F23G5/027

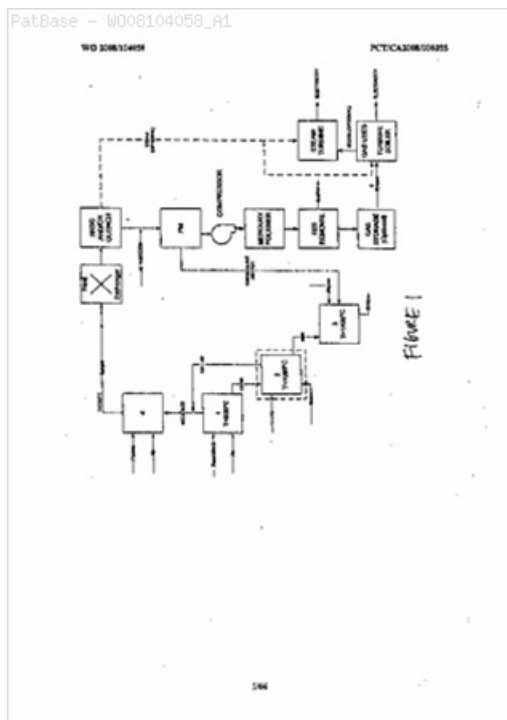
F23G5/38 (Advanced/Invention);

A62D3/00 B09B3/00 C01B31/00 C02F1/02 C02F11/10

C10J3/00 F23G5/027 F23G5/38 (Core/Invention)

CPC: C01B3/342 C01B3/22 C01B2203/0216 C01B2203/0272

C01B2203/0861 C01B2203/84 C10J3/00 C10J3/20 C10J3/32
C10J3/34 C10J3/42 C10J3/482 C10J3/485 C10J3/523 C10J3/66
C10J3/721 C10J3/82 C10J2200/09 C10J2300/0916 C10J2300/093
C10J2300/094 C10J2300/0946 C10J2300/0956 C10J2300/0973
C10J2300/1606 C10J2300/1634 C10J2300/165 C10J2300/1675
C10J2300/1687 C10J2300/1869 C10J2300/1884 F23G5/027
F23G5/50 F23G7/10 F23G2202/102 F23G2202/103 F23G2202/104
F23G2203/8013 F23G2203/803 F23G2203/805 F23G2204/103
F23G2204/201 F23J7/00 F23L15/04 Y02W10/37 Y02P20/145
Y02E20/348
European: C01B3/22 C01B3/34G C10J3/00 C10J3/20 C10J3/32
C10J3/34 C10J3/42 C10J3/48B C10J3/48D C10J3/52B C10J3/66
C10J3/72B C10J3/82 F23G5/027 F23G5/50 F23G7/10 F23J7/00
F23L15/04 M01B203/02B2B M01B203/02F2 M01B203/08B10
M01B203/84 M10J200/09 M10J300/09D14 M10J300/09D2
M10J300/09D6 M10J300/09D8 M10J300/09F14 M10J300/09F2
M10J300/16B2 M10J300/16D2D M10J300/16F2D M10J300/16K2
M10J300/16S M10J300/18M2 M10J300/18M6 R23G202/102
R23G202/103 R23G202/104 R23G203/801A R23G203/803
R23G203/805 R23G204/103 R23G204/201 Y02E20/18 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
WO08104058 A1	20080904	WO2008CA00355	20080227

Priority:

US20070891749P 20070227	US20070891754P 20070227	US20070891807P 20070227
US20070891768P 20070227	WO2007US68405 20070507	WO2007US68407 20070507
US20070917395P 20070511	WO2007US70456 20070605	US20070986127P 20071107

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): BACON MARC ; PLASCO ENERGY GROUP INC ; TSANGARIS ANDREAS

Inventor(s): (std): TSANGARIS ANDREAS ; BACON MARC

Agent(s): MBM AND CO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU
CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL
IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW
MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ
TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

39) Family number: 49808222 (US2011258914A)

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Title: METHODS FOR INTEGRATED FAST PYROLYSIS PROCESSING OF BIOMASS

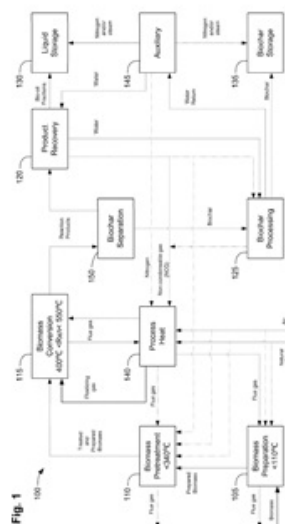
Abstract: Methods, process, apparatus, equipment, and systems are disclosed for converting biomass into bio-oil fractions for chemicals, materials, feedstocks and fuels using a low-cost, integrated fast pyrolysis system. The system improves upon prior art by creating stable, bio-oil fractions which have unique properties that make them individually superior to conventional bio-oil. The invention enables water and low-molecular weight compounds to be separated into a final value-added fraction suitable for upgrading or extracting into value-added chemicals, fuels and water. Initial bio-oil fractions from the process are chemically distinct, have low-water content and acidity which reduces processing costs normally associated with conventional bio-oil post-production upgrading since fewer separation steps, milder processing conditions and lower auxiliary inputs are required. Biochar is stabilized so that it can be handled safely. The integrated fast pyrolysis process includes biomass storage, preparation, pretreatment, and conversion, product recovery and processing to create and store stable biochar and bio-oil fractions.

Classifications:

International (IPC 8-9): B02C23/22 B09B3/00 C04B12/00
C08L95/00 C09K8/52 C09K8/68 C09K8/72 C09K8/80 C09K8/86
C10B33/00 C10B53/02 C10B57/00 C10B57/04 C10C3/00 C10G1/00
C10G1/04 C10G3/00 C10L1/00 C10L1/02 C10L5/00 C10L5/40
C10L5/44 E21B43/20 E21B43/28 E21B43/34
E21B7/00 (Advanced/Invention);
B09B3/00 C07C45/51 C10B49/10 C10B53/02 C10B57/02 C10B57/08
C10B57/10 C10C5/00 C10K1/02 C10L1/00 C10L1/02 C10L5/40
C10L5/44 (Advanced/Non-invention)
CPC: C10L5/447 C10B49/10 C10B53/02 C10B57/02 C10B57/08
C10B57/10 C10G2300/1014 C10K1/02 C10L1/00 C10L1/02
C10G3/45 C10G3/47 Y02E50/10 Y02E50/15 Y02E50/30
C10G2300/4081 B03D2203/006 C10C5/00 C10G2300/802
C10G2300/805 Y02E50/14 Y02P20/145 Y02P30/20 Y02P30/10
C10G1/047 C10G1/002 C08L95/00 C04B12/00 E21B43/34 C10G1/00
C09K8/52 C09K8/68 C09K8/72 C09K8/86 C09K2208/26
C09K2208/32

European: C10B49/10 C10B53/02 C10B57/02 C10B57/08
C10B57/10 C10C5/00 C10K1/02 C10L1/00 C10L1/02 C10L5/44F
M10G300/10B2 Y02E50/10 Y02E50/15 Y02E50/30

US: 1/1 166/267 201/13 201/25 201/4 201/41 208/391 44/300
44/300P 44/307 44/307P 44/505 44/505S 44/589 44/590 44/599
44/605 44/605S 44/606 44/607 507/261 507/266 507/267 507/268
508/110 585/240 585/242

**Family:**

Publication number	Publication date	Application number	Application date
AU2012256008 AA	20121122	AU20120256008	20120514
AU2012256008 BB	20170504	AU20120256008	20120514
BR112013029457 A2	20170117	BR20131129457	20120514
BR112013030177 A2	20170321	BR20131130177	20120525
CA2873385 AA	20141112	CA20122873385	20120514
CA2873389 AA	20141112	CA20122873389	20120515
EP2710092 A2	20140326	EP20120786755	20120514
EP2710092 A4	20141217	EP20120786755	20120514
EP2715060 A2	20140409	EP20120793103	20120525
EP2715060 A4	20150520	EP20120793103	20120525
IN10629DN2013 A	20141226	IN2013DN10629	20131210
IN309190 B	20190322	IN2013DN10629	20131210
MX2013013973 A1	20140901	MX20130013973	20120525
US2011258914 AA	20111027	US20110174849	20110701
US2012090221 AA	20120419	US20110336053	20111223
US2012289440 AA	20121115	US20120470991	20120514
US2012302470 AA	20121129	US20120480207	20120524
US2016068759 AA	20160310	US20150941236	20151113
US8100990 BB	20120124	US20110174849	20110701
US8425633 BB	20130423	US20110336053	20111223
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US9546315 BB	20170117	US20120480207	20120524
WO12158651 A2	20121122	WO2012US37853	20120514
WO12158651 A3	20130221	WO2012US37853	20120514
WO12158655 A2	20121122	WO2012US37862	20120515
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WO12166561 A2	20121206	WO2012US39486	20120525
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Priority:

US20110486304P 20110515	US20110491188P 20110528	US20110174849 20110701
US20110336053 20111223	US20120470991 20120514	WO2012US37853 20120514
WO2012US37862 20120515	US20120480207 20120524	WO2012US39486 20120525
US20150941236 20151113		

Probable Assignee: AVELLO BIOENERGY INC

Assignee(s): (std): AVELLO BIOENERGY INC ; BANASIAK DENNIS ; BANASIAK DENNIS S ; ELLENS CODY ; BROWN JARED ; POLLARD ANTHONY ; ELLENS CODY JAMES ; BROWN JARED NATHANIEL ; BANASIAK DENNIS STEPHAN ; POLLARD ANTHONY JOSEPH SHERWOOD ; BROWN JARED N ; ELLENS CODY J ; POLLARD ANTHONY J S ; AVELLO BIOENERGY INC

Assignee(s): AVELLO BIOENERGY INCSUITE 2116, 666 WALNUT ST.DES MOINESIA50309US

Inventor(s): (std): POLLARD ANTHONY J S ; BANASIAK DENNIS S ; BROWN JARED N ; ELLENS CODY J ; BANASIAK DENNIS ; ELLENS CODY ; BROWN JARED ; POLLARD ANTHONY ; ANTHONY POLLARD ; JARED BROWN ; CODY ELLENS ; DENNIS BANASIAK ; BANASIAK DENNIS STEPHAN ; POLLARD ANTHONY JOSEPH SHERWOOD ; BROWN JARED NATHANIEL ; ELLENS CODY JAMES

Inventor(s): POLLARD ANTHONY JS ; BANASIAK DENNISUS ; ELLENS CODYUS ; BROWN JAREDDUS ; POLLARD ANTHONYUS

Agent(s): FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; BORDEN LADNER GERVAIS LLP; WENNBERG MALIN; OCONNOR AND CO; RYAN P; O CONNOR AND COMPANY; O CONNOR RYAN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY NZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: A LOW TEMPERATURE GASIFICATION FACILITY WITH A HORIZONTALLY ORIENTED GASIFIER

Abstract: A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid waste (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.

Classifications:

International (IPC 8-9): C10J1/207 C10J3/20 C10J3/72 F23G5/027 F23G5/12 (Advanced/Invention);

F23K3/14 (Advanced/Non-invention)

CPC: C10J3/84 C10J3/20 C10J3/482 C10J3/723 C10J3/82 C10J2200/09 C10J2300/0946 C10J2300/1223 C10J2300/1238 C10J2300/1634 C10J2300/1671 C10J2300/1681 F23G5/027

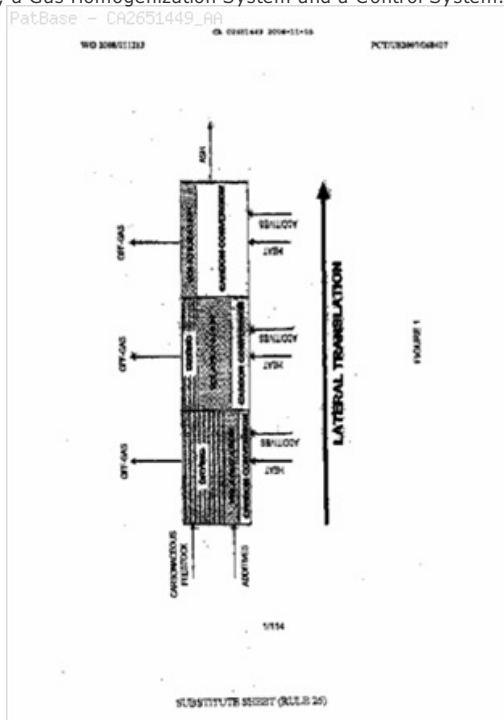
F23G5/085 F23G2204/201 F23G2209/262 F23J7/00 F23J2219/70 Y02E20/12 Y02E20/18 Y02E50/32 Y02P20/129 Y02P20/13

European: C10J3/20 C10J3/48B C10J3/72C C10J3/82 C10J3/84

F23G5/027 F23G5/08C F23J7/00 M10J200/09 M10J300/09D14

M10J300/12F M10J300/12H2 M10J300/16D2D M10J300/16K

M10J300/16P R23G204/201 R23G209/262 R23J219/70 Y02E50/32



Family:

Publication number	Publication date	Application number	Application date
CA2651449 AA	20080124	CA20072651449	20070507
CA2651449 C	20110104	CA20072651449	20070507

Priority:

US20060797973P 20060505	WO2006CA00881 20060605	WO2006CA00882 20060605
US20060864116P 20061102	US20070911179P 20070411	CA20072651449 20070507
WO2007US68407 20070507		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): SONI NIPUN ; TSANGARIS ANDREAS ; WAGLER THOMAS EDWARD ; SHEN ZHIYUAN ; MCLEAN ALISDAIR ALAN ; ZOU XIAOPING ; MARCEAU PASCALE BONNIE ; SWAIN MARGARET ; PLASCO CONVERSION TECHNOLOGIES INC ; BASHAM SCOTT DOUGLAS ; CAMPBELL KENNETH CRAIG ; CHOTALIYA ASHISH ; CUI MAO PEI ; DOBBS GEOFFREY ; FEASBY DOUGLAS MICHAEL

Inventor(s): (std): TSANGARIS ANDREAS ; CUI MAO PEI ; SONI NIPUN ; MARCEAU PASCALE BONNIE ; MCLEAN ALISDAIR ALAN ; FEASBY DOUGLAS MICHAEL ; CAMPBELL KENNETH CRAIG ; BASHAM SCOTT DOUGLAS ; CHOTALIYA ASHISH ; WAGLER THOMAS EDWARD ; DOBBS GEOFFREY ; SWAIN MARGARET ; ZOU XIAOPING ; SHEN ZHIYUAN

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

Title: SYSTEMS AND METHODS FOR PROCESSING CO₂

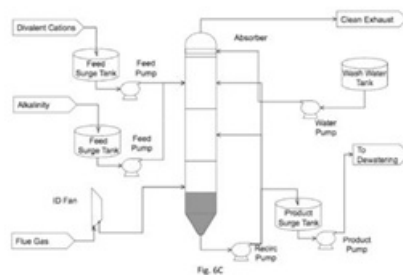
Abstract: Systems and methods for lowering levels of carbon dioxide and other atmospheric pollutants are provided. Economically viable systems and processes capable of removing vast quantities of carbon dioxide and other atmospheric pollutants from gaseous waste streams and sequestering them in storage-stable forms are also discussed.

Classifications:

International (IPC 8-9): B01D53/14 B01D53/60 B01D53/62 B01D53/64 B01F3/04 C01B31/24 C01B32/60 (Advanced/Invention); B01D53/14 B01D53/46 B01D53/60 B01D53/62 (Core/Invention); B01D53/14 B01D53/62 B01F3/04 C01B31/24 (Core/Non-invention)

CPC: B01D53/1456 B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 B01D2257/302 B01D2257/404 B01D2257/504 B01D2257/602 Y02C10/04 Y02A50/2344

European: B01D53/14H B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 L01D257/302 L01D257/404 L01D257/504 L01D257/602 Y02C10/04

**Family:**

Publication number	Publication date	Application number	Application date
AU2010201373 AA	20100930	AU20100201373	20100310
CA2695006 AA	20100525	CA20102695006	20100310
EP2247366 A1	20101110	EP20100739828	20100310
EP2247366 A4	20110420	EP20100739828	20100310
TW201105406 A	20110216	TW20100106893	20100310
WO10104989 A1	20100916	WO2010US26880	20100310

Priority:

US20090158992P 20090310	US20090168166P 20090409	US20090178475P 20090514
US20090178360P 20090514	US20090221457P 20090629	US20090221631P 20090630
US20090223657P 20090707	US20090228210P 20090724	US20090230042P 20090730
US20090239429P 20090902	US20090289657P 20091223	US20100306412P 20100219
US20100311275P 20100305	WO2010US26880 20100310	

Probable Assignee: CALERA CORP**Assignee(s):** (std): CALERA CORP ; ELLIOTT ROBERT W ; FARSAK KASRA ; WALL JUSTIN ; SELF KYLE ; O CONNOR RICHARD PETER ; SEEKER WILLIAM RANDALL**Inventor(s):** (std): FARSAK KASRA ; ELLIOTT ROBERT W ; WALL JUSTIN ; SELF KYLE ; O CONNOR RICHARD PETER ; SEEKER WILLIAM RANDALL ; RANDALL SEEKER WILLIAM ; KYLE SELF ; KASRA FARSAK ; PETER O CONNOR RICHARD ; JUSTIN WALL ; O CONNOR RICHARD P ; SEEKER WILLIAM RANDAL**Inventor(s):** O'CONNOR, RICHARD P.**Agent(s):** PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; BROUGHTON JON PHILIP; WITT ERIC**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**42) Family number: 43222380 (US2011087470A)**

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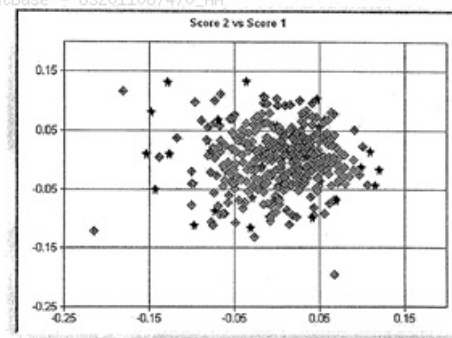
Title: MATERIAL AND METHODS FOR USE IN BIOMASS PROCESSING**Abstract:** Methods and materials for measuring the composition of plant biomass and predicting the efficiency of conversion of such biomass to various end products under various processing conditions are disclosed. For example, methods and materials for identifying plant material having higher levels of accessible carbohydrate, as well as materials and methods for processing plant material having higher levels of accessible carbohydrate are disclosed. Also disclosed are computer-implemented methods and systems that provide improved economic efficiencies to biorefineries.**Classifications:****International (IPC 8-9):** A01H1/02 A01H1/04 G01J3/28 G01N G01N21/35 G01N21/359 G01N21/84 G01N21/90 G01N31/00 G06F17/10 G06F19/00 G06F19/10 G06F19/12 G06Q10/08 G1N21/90 (Advanced/Invention);

G01N21/31 G01N21/88 (Core/Invention)

CPC: G01N21/359 G01N2021/8466 G01N2201/1293 G01N21/3563 G16B5/00**European:** G01N21/35G S01N201/129M S01N21/35D S01N21/84N**US:** 356/326 356/326S 702/181 702/181S 702/28 703/11 703/2

703/2P 800/263 800/263S

PatBase - US2011087470_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2008318505 AA	20090507	AU20080318505	20081031
CA2707535 AA	20100601	CA20082707535	20081031
CN101918815 A	20101215	CN200880123038	20081031
CN101918815 B	20130508	CN200880123038	20081031
DE602008030673 D1	20140417	DE200860030673T	20081031
EP2215455 A2	20100811	EP20080844814	20081031
EP2215455 B1	20140305	EP20080844814	20081031
ES2453111 T3	20140404	ES20080844814T	20081031

IN03899DN2010 A	20130830	IN2010DN03899	20100602
MX2010004863 A1	20100728	MX20100004863	20081031
US2011087470 AA	20110414	US20080740941	20081031
US2014046641 AA	20140213	US20130938598	20130710
US8489340 BB	20130716	US20080740941	20081031
WO09059176 A2	20090507	WO2008US82047	20081031
WO09059176 A3	20090827	WO2008US82047	20081031

Priority:

US20070984976P 20071102 US20080025033P 20080131 US20080056631P 20080528
EP20080844814 20081031 US20080740941 20081031 WO2008US82047 20081031
US20100740941 20101208 US20130938598 20130710

Probable Assignee: CERES INC

Assignee(s): (std): HAMES BONNIE ; KRUSE TANYA ; RAGAB AMR SAAD ; THOMAS STEVEN R ; CERES INC

Assignee(s): CERES INC THOUSAND OAKS

Inventor(s): (std): HAMES BONNIE ; THOMAS STEVEN R ; KRUSE TANYA ; RAGAB AMR SAAD ; BONNIE HAMES ; SAAD RAGAB AMR ; TANYA KRUSE

Inventor(s): AMR SAAD RAGAB ; STEVEN R THOMAS

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR; KRAUS AND WEISERT PATENTANWALTE PARTGMBB; VALEA AB; UNGRIA JAVIER; FISH AND RICHARDSON PC; LUNDQUIST RONALD C

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

43) Family number: 46843334 (US2010230830A)

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Title: SYSTEMS AND METHODS FOR PROCESSING CO₂

Abstract: Systems and methods for lowering levels of carbon dioxide and other atmospheric pollutants are provided. Economically viable systems and processes capable of removing vast quantities of carbon dioxide and other atmospheric pollutants from gaseous waste streams and sequestering them in storage-stable forms are also discussed.

Classifications:

International (IPC 8-9): B01D47/00 B01D47/06 B01D53/14 C01B32/60 (Advanced/Invention);

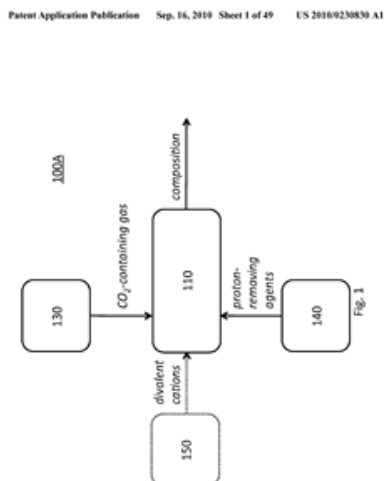
B01D47/00 B01D47/06 (Core/Invention)

CPC: B01D53/1456 B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 B01D2257/302 B01D2257/404 B01D2257/504 B01D2257/602 Y02C10/04

European: B01D53/14H B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 L01D257/302 L01D257/404 L01D257/504 L01D257/602 Y02C10/04

US: 261/108 261/108S 261/111 261/111S 261/20 261/20P 261/78.1 261/78.100S 95/152 95/236 96/234 96/235

PatBase - US2010230830_AA



Family:

Publication number	Publication date	Application number	Application date
US2010230830 AA	20100916	US20100721545	20100310
US8137444 BB	20120320	US20100721545	20100310

Priority:

US20090158992P 20090310 US20090168166P 20090409 US20090178475P 20090514
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US20090239429P 20090902 US20090289657P 20091223 US20100306412P 20100219
US20100311275P 20100305 US20100721545 20100310

Probable Assignee: CALERA CORP

Assignee(s): (std): CALERA CORP ; ELLIOTT ROBERT W ; FARSAD KASRA ; O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL

Assignee(s): MOSS LANDING CEMENT CO LLC

Inventor(s): (std): FARSAD KASRA ; ELLIOTT ROBERT W ; O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL

Inventor(s): O'CONNOR RICHARD P

Agent(s): CALERA ERIC WITT CORP

Title: BIOMASS PRETREATMENT FOR FAST PYROLYSIS TO LIQUIDS

Abstract: Aspects of the present invention relate to methods, systems, and compositions for preparing a solid biomass for fast pyrolysis. The method includes contacting the solid biomass with an inorganic material present in an effective amount for increasing fast pyrolysis yield of an organic liquid product (e.g., bio-oil). In various embodiments, the inorganic material is selected from the group consisting of aluminum sulfate, aluminum nitrate, aluminum chloride, aluminum hydroxide, ammonium hydroxide, magnesium hydroxide, potassium hydroxide, and combinations thereof.

Classifications:

International (IPC 8-9): C10B49/16 C10B53/00 C10B53/02 C10B57/00 C10B57/08 C10B57/12 C10C3/02 C10C5/00 C10G1/00 C10G1/02 C10G1/08 C10L1/00 C10L1/02 C10L5/00 (Advanced/Invention)

CPC: Y02E50/14 C10B53/02 C10B49/16 C10B57/08 C10C5/00 C10G1/02 C10G2300/1011 C10L1/02 Y02E50/30 C10G1/08 Y02P30/20

European: C10B49/16 C10B53/02 C10B57/08 C10C5/00 C10G1/02 C10L1/02 M10G300/10B

US: 201/2.5 201/2.500S 201/20 201/5 208/400 208/404 208/405 44/307 44/307P 44/605 44/605S 585/469 585/638 585/733

Family:

Publication number	Publication date	Application number	Application date
BR112013021990 A2	20161116	BR20131121990	20120307
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CA2829205 C	20190219	CA20122829205	20120307
CN103443252 A	20131211	CN201280012399	20120307
DK2683797 T3	20190408	DK20120754769T	20120307
EP2683797 A2	20140115	EP20120754769	20120307
EP2683797 A4	20140910	EP20120754769	20120307
EP2683797 B1	20190102	EP20120754769	20120307
IN02599KN2013 A	20131213	IN2013KN02599	20130823
US2012047794 AA	20120301	US20110045444	20110310
US2012272565 AA	20121101	US20120546271	20120711
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WO12122224 A2	20120913	WO2012US27990	20120307
WO12122224 A3	20130516	WO2012US27990	20120307

Priority:

US20110045444 20110310 WO2012US27990 20120307 US20120546271 20120711

Probable Assignee: INAERIS TECHNOLOGIES LLC

Assignee(s): (std): BARTEK ROBERT ; BRADY MICHAEL ; INAERIS TECH LLC ; KIOR INC ; STAMIRENS DENNIS

Assignee(s): KHOSLA VENTURES III LP ; KFT TRUST C O KHOSLA VENTURES ; KFT TRUST VINOD KHOSLA TRUSTEE FIRST LIEN AGENT AS ; KIOR LLC ; INAERIS TECHNOLOGIES LLC ; 1538731 ALBERTA LTD AGENT AS

Inventor(s): (std): BARKET ROBERT ; BARTEK ROBERT ; BRADY MICHAEL ; STAMIRENS DENNIS

Inventor(s): DENNIS STAMIRENS ; MICHAEL BRADY ; ROBERT BARKET

Agent(s): BORDEN LADNER GERVAIS LLP; DANIELS IP SERVICES LTD; OYEN WIGGS GREEN AND MUTALA LLP; SUTCLIFFE NICHOLAS ROBERT; LUCAS PHILLIP BRIAN; NATALIE; JENNIFER A; GREENBERG TRAUIG LLP; CAMACHO JENNIFER A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: A GAS REFORMULATING SYSTEM USING PLASMA TORCH HEAT

Abstract: A method and apparatus is described for reformulating of an input gas from a gasification reaction into a reformulated gas. More specifically, a gas reformulating system having a gas reformulating chamber, one or more plasma torches, one or more oxygen source(s) inputs and control system is provided thereby allowing for the conversion of an input gas from a gasification reaction into a gas of desired composition.

Classifications:

International (IPC 8-9): C01B13/28 C01B3/24 C01B3/34 C01B31/00 C10J3/00 C10J3/20 C10J3/48 C10K1/00 F23G5/08 (Advanced/Invention);

C01B13/20 C01B3/00 C01B31/00 C10J3/00 C10J3/02 C10J3/48 C10K1/00 F23G5/08 (Core/Invention)

CPC: C01B3/363 C10K3/003 C10K3/006 C10J3/485 C01B2203/0216

C01B2203/061 C01B2203/066 C10J3/482 C10J2200/09 C10J2300/0983 C10J2300/1238 C10K3/008 F23G5/085 F23G2204/201 C01B3/342 C01B2203/0255 C01B2203/0861 C10J3/82 C10J2300/1618

European: C01B3/34G C01B3/36B C10J3/48B C10J3/48D C10J3/82 C10K3/00B2F F23G5/08C M01B203/02B2B M01B203/02D2 M01B203/06B M01B203/06H M01B203/08B10 M10J200/09 M10J300/09H M10J300/12H2 M10J300/16B12 R23G204/201 Y02E20/18

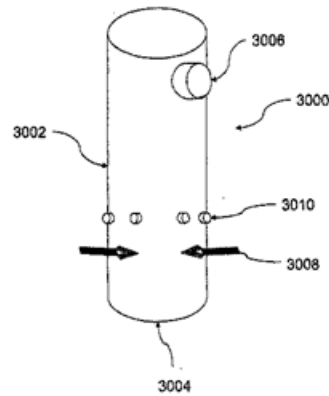


Figure 1

SUBSTITUTE SHEET (RULE 26)

Family:

Publication number	Publication date	Application number	Application date
AU2007247893 AA	20071115	AU20070247893	20070507
AU2007247893 AB	20090108	AU20070247893	20070507
AU2007247893 BB	20130221	AU20070247893	20070507
BRPI0711330 A2	20130108	BR2007PI11330	20070507
EP2043951 A2	20090408	EP20070783407	20070507
EP2043951 A4	20100414	EP20070783407	20070507
JP2009536258 T2	20091008	JP20090510127T	20070507
KR20090040406 A	20090424	KR20087029844	20081205
MX2008014199 A1	20090907	MX20080014199	20070507
WO07131234 A2	20071115	WO2007US68397	20070507
WO07131234 A3	20080103	WO2007US68397	20070507

Priority:

US20060797973P 20060505	US20060798075P 20060505	AU20060254672 20060605
WO2006CA00881 20060605	US20060864116P 20061102	US20070911179P 20070411
WO2007US68397 20070507		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC ; PLASCO ENERGY IP HOLDINGS S L ; PLASCOENERGY GROUP INC ; PLASCOENERGY IP HOLDINGS S L ; PLASCOENERGY IP HOLDINGS S L B ; SWAIN MARGARET ; TSANGARIS ANDREAS ; PLASCOENERGY IP HOLDINGS SLB

Assignee(s): PLASCOENERGY IP HOLDINGS SL ; PLASCOENERGY IP HOLDINGS SL BILBAO SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH ; PLASCO ENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH ; PLASCO ENERGY IP HOLDINGS SL

Inventor(s): (std): MC LEAN ALISDAIR ALAN ; CUI MAO PEI ; MCLEAN ALISDAIR ALAN ; CAMPBELL KENNETH CRAIG ; FEASBY DOUGLAS MICHAEL ; TSANGARIS ANDREAS ; SWAIN MARGARET ; CAMPBELL KENNETH CRAIG

Inventor(s): KENNETH CRAIG CAMPBELL ; ALISDAIR ALAN MCLEAN ; DOUGLAS MICHAEL FEASBY ; MAO PEI CUI ; DOBBS GEOFFREY ; SHEN ZHIYUAN ; KENNETH CRAIG CAMPBELL ; MARGARET SWAIN ; ANDREAS TSANGARIS

Agent(s): GRIFFITH HACK; BOSCH MATTHIAS ET AL; MBM AND CO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

46) Family number: 46869286 (US2010236242A)

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Title: SYSTEMS AND METHODS FOR PROCESSING CO₂

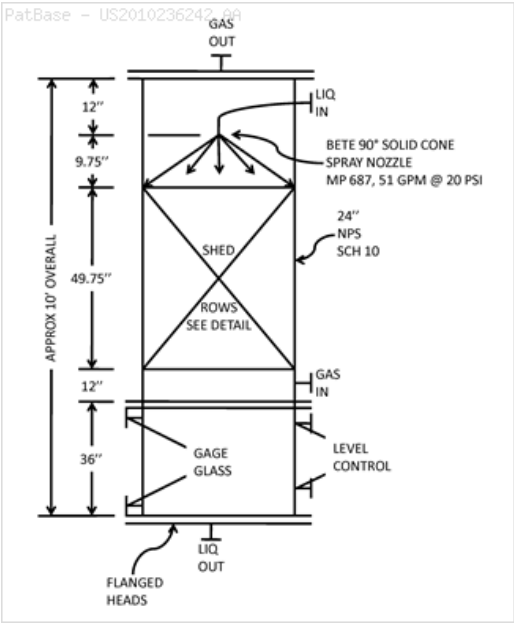
Abstract: Systems and methods for lowering levels of carbon dioxide and other atmospheric pollutants are provided. Economically viable systems and processes capable of removing vast quantities of carbon dioxide and other atmospheric pollutants from gaseous waste streams and sequestering them in storage-stable forms are also discussed.

Classifications:

International (IPC 8-9): C01B32/60 F01N3/00 (Advanced/Invention); F01N3/00 (Core/Invention)

CPC: B01D53/1456 B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 B01D2257/302 B01D2257/404 B01D2257/504 B01D2257/602 Y02C10/04

European: B01D53/14H B01D53/18 B01D53/60 B01D53/62 B01D53/64 B01D53/78 L01D257/302 L01D257/404 L01D257/504 L01D257/602 Y02C10/04



Family:

Publication number	Publication date	Application number	Application date
US2010236242 AA	20100923	US20100721542	20100310
US2011247336 A9	20111013	US20100721542	20100310

Priority:

US20090158992P 20090310	US20090168166P 20090409	US20090178475P 20090514
US20090178360P 20090514	US20090221457P 20090629	US20090221631P 20090630
US20090223657P 20090707	US20090228210P 20090724	US20090230042P 20090730
US20090239429P 20090902	US20090289657P 20091223	US20100306412P 20100219
US20100311275P 20100305	US20100721542 20100310	

Probable Assignee: CALERA CORP

Assignee(s): (std): O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL ; ELLIOTT ROBERT W ; FARSAD KASRA

Assignee(s): MOSS LANDING CEMENT CO LLC ; CALERA CORP

Inventor(s): (std): FARSAD KASRA ; ELLIOTT ROBERT W ; O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL

Inventor(s): O'CONNOR RICHARD P

Agent(s): CALERA ERIC WITT CORP

47) Family number: 33892138 (US2006265953A) © PatBase

Title: METHOD AND APPARATUS FOR PRODUCING METHANE FROM CARBONACEOUS MATERIAL

Abstract: A method for producing methane (69) from a carbonaceous (22) material includes conveying pulverized carbonaceous material (28) entrained in an inert carrier fluid, such as carbon dioxide (36), into a reactor (34). The reactor (34) includes a vortex region (72) for receiving hydrogen gas (38) and imparting a swirling motion to the hydrogen gas (38). The pulverized carbonaceous material (28) is exposed to the swirling stream of hydrogen gas (38) in a first reaction zone (114) within the reactor (34) to form an exit gas (40) that includes methane (69). Remaining unreacted carbonaceous material (28) is further exposed to the hydrogen gas (38) in a second, low velocity, reaction zone (120). The methane rich exit gas (40) is subsequently extracted from the reactor (34) for further processing.

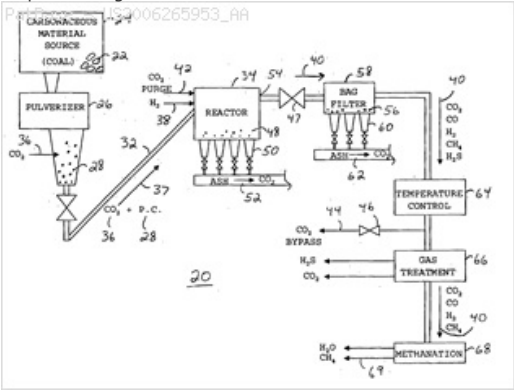
Classifications:

International (IPC 8-9): C01B3/02 C01B3/32 C10B3/02 C10J1/20 C10J3/46 (Advanced/Non-invention); F23C1/10 (Advanced/Non-invention); C01B3/00 C10B3/00 C10J1/00 C10J3/46 (Core/Invention); F23C1/00 (Core/Non-invention)

CPC: C10J2300/0906 B01J19/2405 B01J19/26 B01J2219/00763 C01B3/50 C01B3/586 C01B2203/0445 C01B2203/047 C01B2203/0475 C01B2203/0485 C10J3/487 C10J3/506 C10J2300/0903 C10J2300/093 C10J2300/0966 C10J2300/0969 C10J2300/1662 C10J2300/1807 C10K1/004 C10K1/005 C10K1/024 C10L3/08 Y02P20/133

European: B01J19/24B B01J19/26 C01B3/50 C01B3/58D C10J3/48 C10J3/48D2 C10J3/50D C10L3/08 L01J219/00D2 M01B203/04H4 M01B203/04P2 M01B203/04P4 M01B203/04P8 M10J300/09B M10J300/09D6 M10J300/09F12 M10J300/09F8 M10J300/16F4D M10J300/18B

US: 110/264 110/347 423/648.1 48/127.3 48/127.300P 48/127.300S 48/127.5 48/127.500P 48/197.00R 48/197R 48/206 48/207 48/210 48/63 48/77



Family:

Publication number	Publication date	Application number	Application date
US2006265953 AA	20061130	US20050138638	20050526
US2010024298 AA	20100204	US20090543398	20090818
US7575613 BB	20090818	US20050138638	20050526
US8152875 BB	20120410	US20090543398	20090818

WO06127958 A2	20061130	WO2006US20352	20060525
WO06127958 A3	20080214	WO2006US20352	20060525

Priority:

US20050138638 20050526 US20090543398 20090818

Probable Assignee: ARIZONA PUBLIC SERVICE CO

Assignee(s): (std): ARIZONA PUBLIC SERVICE CO ; ARIZONA PUBLIC SERVICE COMPANY ; HOBBS RAYMOND S

Inventor(s): (std): HOBBS RAYMOND S

Inventor(s): HOBBS RAYMOND

Agent(s): MESCHKOW AND GRESHAM PLC; SNELL AND WILMER LLP MAIN; SNELL AND WILMER LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

48) Family number: 51942491 (US2012266530A)

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Title: PYROLYSIS OIL AND OTHER COMBUSTIBLE COMPOSITIONS FROM MICROBIAL BIOMASS

Abstract: Oleaginous microbial biomass is subjected to pyrolysis to make microbial pyrolysis oil for use as a fuel or is otherwise formed into combustible products for the generation of heat and/or light.

Classifications:

International (IPC 8-9): C10B53/00 C10G1/00 C10G3/00 C10J3/72 C10L1/08 C10L5/04 C10L5/36 C10L5/42 C10L5/44 C10L9/08 C10L9/10 F23G5/027 (Advanced/Invention); C10B47/14 (Advanced/Non-invention)

International (IPC 1-7): C10B53/00 C10G3/00 C10L5/42 C10L9/10 F23G5/027

CPC: C10B47/14 C10G2300/1011 C10G2300/1014 C10G2300/4006 C10L5/363 C10L5/365 C10L5/44 C10L9/083 Y02E50/10 Y02E50/15 Y02E50/30 C10J3/72 C10L9/10 C10L5/04 C10L2200/0469 C10L2270/026 C10L2290/02 C10L2230/12 C10J2300/0916 C10J2300/0906 C10J2300/0909 C10J2300/1603 C10L1/08 C10B53/00 Y02P20/145 Y02P30/20

European: C10B53/00 C10L5/36D C10L5/36F C10L5/44 C10L9/08B M10B47/14 M10G300/10B

US: 44/500 44/535 44/542 44/550 44/589 44/605 48/197FM 585/14 585/240

Family:

Publication number	Publication date	Application number	Application date
BR112013023613 A2	20170919	BR20131123613	20120316
EP2686404 A2	20140122	EP20120757370	20120316
EP2686404 A4	20140813	EP20120757370	20120316
US2012266530 AA	20121025	US20120422931	20120316
US2015107151 AA	20150423	US20140586522	20141230
US8951308 BB	20150210	US20120422931	20120316
WO12125959 A2	20120920	WO2012US29517	20120316
WO12125959 A3	20121227	WO2012US29517	20120316

Priority:

US20110453915P 20110317 US20110538747P 20110923 US20120422931 20120316
WO2012US29517 20120316 US20140586522 20141230

Probable Assignee: TERRAVIA HOLDINGS INC

Assignee(s): (std): ELLIS GRAHAM ; SOLAZYME INC ; FLORENCE ROBERT ; PAINTER TYLER ; GALVEZ ADRIANO ; SOUSA SONIA

Assignee(s): TERRAVIA HOLDINGS INC ; CORBION BIOTECH INC

Inventor(s): (std): FLORENCE ROBERT ; SOUSA SONIA ; PAINTER TYLER ; ELLIS GRAHAM ; GALVEZ ADRIANO ; GRAHAM ELLIS ; ROBERT FLORENCE ; ADRIANO GALVEZ ; TYLER PAINTER ; SONIA SOUSA

Agent(s): MARSHALL CAMERON JOHN; WEAVER AUSTIN VILLENEUVE AND SAMPSON LLP; HALIDAY EMILY M ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

49) Family number: 63365228 (US2016251585A)

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Title: STEAM INJECTOR FOR A GASIFICATION SYSTEM

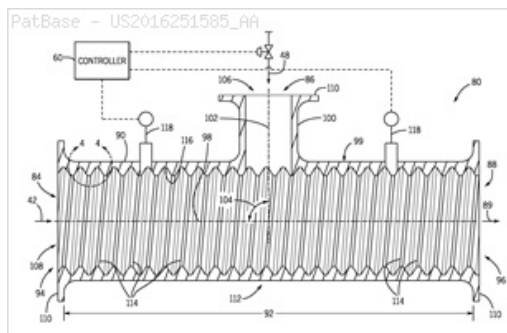
Abstract: A system includes a first steam injector configured to mix a steam and a feedstock to form a heated feedstock. Additionally, first viscosity of the feedstock is greater than a second viscosity of the heated feedstock. The system also includes a feed system positioned upstream of the first steam injector and configured to supply the feedstock to the first steam injector. In addition, the system includes a steam system configured to supply the steam to the first steam injector. Furthermore, the system includes a gasifier coupled to the first steam injector and configured to receive the heated feedstock.

Classifications:

International (IPC 8-9): B01F3/04 B01F5/00 B01F5/04 C10J3/00 C10J3/50 C10J3/72 (Advanced/Invention); B01F5/06 (Advanced/Non-invention)

CPC: C10J2200/09 C10J3/506 B01F5/0615 B01F2005/0636 C10J3/503 C10J2200/152 C10J2300/0976

US: 422/162



Family:

Publication number	Publication date	Application number	Application date
CN205710606 U	20161123	CN201620144520U	20160226
US2016251585 AA	20160901	US20150633354	20150227
US9758736 BB	20170912	US20150633354	20150227

Priority:

US20150633354 20150227

Probable Assignee: GENERAL ELECTRIC CO
Assignee(s): (std): GEN ELECTRIC
Assignee(s): GENERAL ELECTRIC CO
Inventor(s): (std): GRANADOS LUIS ROGELIO
Agent(s): FLETCHER YODER PC

50) Family number: 57313862 (US2016009554A)

© PatBase

Title: MOLTEN METAL GASIFIER

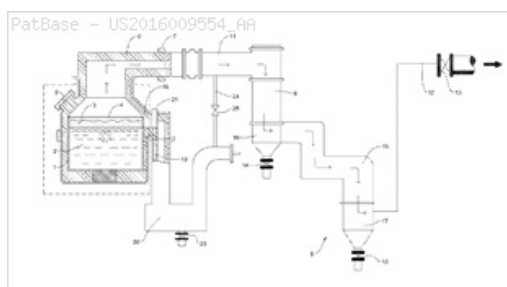
Abstract: An apparatus for gasification of at least one feed fuel material containing carbon into syngas, under a total pressure which exceeds atmospheric pressure comprises a crucible means for containing molten metal, said crucible including injection means for injecting at least one feed fuel material, oxidant gas, or a combination thereof, beneath the surface of the molten metal, an exhaust pipe connected to said crucible means for discharge of syngas therefrom, cooling means for cooling said syngas connected to said exhaust pipe to form a sealed unit with said crucible means, and tapping means for discharge of slag from said crucible means.

Classifications:

International (IPC 8-9): C01B3/04 C01B3/24 C10J3/18 C10J3/57 C10J3/72 (Advanced/Invention)

CPC: C10J3/57 C10J3/721 C10J3/723 C10J2300/0906 C10J2300/0946 C10J2300/123 C10J2300/1606 C10J2300/165 C10J2300/1653 C10J2300/1671 C10K1/004 C01B3/24 C01B2203/0272 Y02E20/18 C01B3/348 C01B2203/0255 C01B2203/062 C01B2203/0805 C10J2300/0916 C10J2300/093 C10J2300/1659 Y02E50/32 Y02P20/145

US: 252/373



Family:

Publication number	Publication date	Application number	Application date
US2016009554 AA	20160114	US20140771218	20140228
WO14132230 A1	20140904	WO20141B59329	20140228

Priority:

SG20130001536 20130228 SG20130015367 20130228 WO20141B59329 20140228

Probable Assignee: GUEH HOW KIAP

Assignee(s): (std): GUEH HOW KIAP

Inventor(s): (std): GUEH HOW KIAP

Agent(s): SCHWEIGER MARTIN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KS LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

51) Family number: 63200993 (US2018023007A)

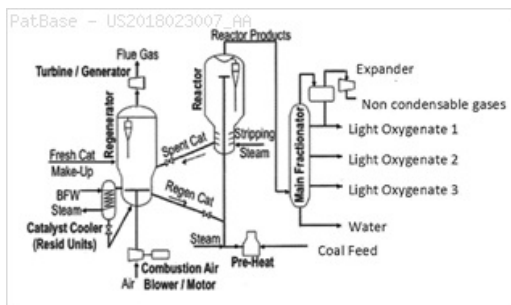
© PatBase

Title: DEPOLYMERIZATION PROCESS

Abstract: A method for solubilizing a carbonaceous feedstock. The method includes steps of reacting a mixture of the carbonaceous feedstock with a metal oxide including a metal at a first, higher oxidation state to reduce the metal of the metal oxide to a second, lower oxidation state by releasing at least one oxygen atom from the metal oxide. The released oxygen from the metal oxide is used to oxidize the carbonaceous feedstock. At least a portion of the metal or metal oxide containing the metal at the second, lower oxidation state is then oxidized to the metal oxide containing the metal at the first, higher oxidation state for reuse in the reaction step.

Classifications:

International (IPC 8-9): B09B3/00 C02F3/34 C07C51/21 C07C53/08 C07C53/126 C07C55/10 C07C55/12 C07C55/22 C07C59/245 C08J11/16 C10G C10G1/06 C10G1/08 C10G27/00 C10G27/10 C10G32/00 C12P3/00 C12P5/00 C12P5/02 C12P7/00 (Advanced/Invention)
CPC: C10G27/10 C12P5/023 C12P3/00 C10G32/00 C10G1/086 C10G27/00 C10G1/06



Family:

Publication number	Publication date	Application number	Application date
AU2016218259 AA	20170824	AU20160218259	20160209
CA2976070 AA	20170808	CA20162976070	20160209
CN107207973 A	20170926	CN201680009811	20160209
EA201791539 A1	20171229	EA20170091539	20160209
EP3256546 A1	20171220	EP20160749677	20160209
EP3256546 A4	20180718	EP20160749677	20160209
HK1244297 A1	20180803	HK20180103707	20180316
IN201727031099 A	20171110	IN201727031099	20170901
JP2018511561 T2	20180426	JP20170541754T	20160209
KR20170116059 A	20171018	KR20177023762	20160209
MX2017010314 A1	20180615	MX20170010314	20160209
SG11201706343V A1	20170928	SG20171106343	20160209
US2018023007 AA	20180125	US20160547999	20160209
WO16130494 A1	20160818	WO2016US17059	20160209

Priority:

US20150114299P 20150210 US20160547999 20160209 WO2016US17059 20160209

Probable Assignee: CIRIS ENERGY INC

Assignee(s): (std): CIRIS ENERGY INC

Assignee(s): REJAI BAHMAN ; BARTEK ROBERT

Inventor(s): (std): BARTEK ROBERT ; REJAI BAHMAN ; REJAL BAHMAN ; ROBERT BARTEK ; BAHMAN REJAI

Agent(s): ALLENS PATENT AND TRADE MARK ATTORNEYS; MBM INTELLECTUAL PROPERTY LAW LLP; DUNLEAVY KEVIN JAMES; EAGLE IP LTD; DUNLEAVY KEVIN J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

52) Family number: 43929105 (US2007266633A)

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Title: GAS REFORMULATING SYSTEM USING PLASMA TORCH HEAT

Abstract: A method and apparatus is described for reformulating of an input gas from a gasification reaction into a reformulated gas. More specifically, a gas reformulating system having a gas reformulating chamber, one or more plasma torches, one or more oxygen source(s) inputs and control system is provided thereby allowing for the conversion of an input gas from a gasification reaction into a gas of desired composition.

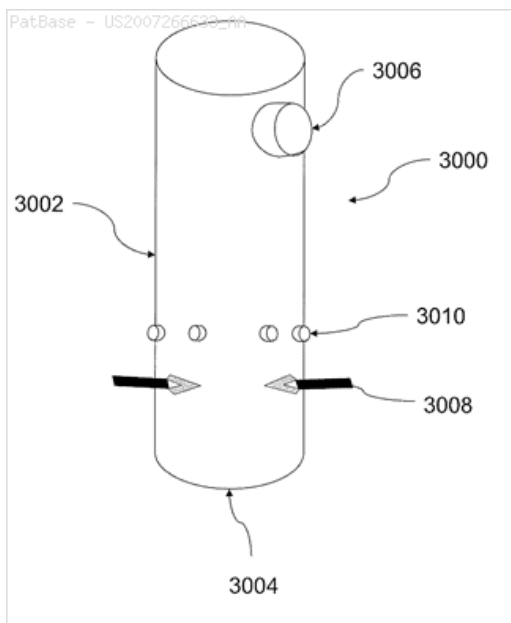
Classifications:

International (IPC 8-9): B01J7/00 C01B3/02 C01B3/36 C01B6/24 C10J3/00 C10J3/16 (Advanced/Invention); C10J3/00 (Core/Invention)

CPC: C10J3/485 C01B3/342 C01B2203/0216 C01B2203/0255 C01B2203/061 C01B2203/066 C01B2203/0861 C10J3/482 C10J2200/09 C10J2300/0983 C10J2300/1238 C10J2300/1618 C10K3/008 F23G5/085 F23G2204/201 C01B3/363 C10J3/82 C10K3/003 C10K3/006

European: C01B3/34G C10J3/48B C10J3/48D C10K3/00B2F F23G5/08C M01B203/02B2B M01B203/02D2 M01B203/06B M01B203/06H M01B203/08B10 M10J200/09 M10J300/09H M10J300/12H2 M10J300/16B12 R23G204/201 Y02E20/18

US: 423/644 423/648.1 48/127.9 48/127.900S 48/197.00R 48/197.00RP 48/197R 48/202 48/210 48/61 48/62.00RS 48/62R



Family:

Publication number	Publication date	Application number	Application date
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US2007266633 AA	20071122	US20070745414	20070507
US8475551 BB	20130702	US20070745414	20070507

Priority:

US20060797973P 20060505 US20060798075P 20060505 WO2006CA00881 20060605
US20060864116P 20061102 US20070911179P 20070411 US20070745414 20070507

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): CUI MAO PEI ; DOBBS GEOFFREY ; FEASBY DOUGLAS MICHAEL ; TSANGARIS ANDREAS ; SWAIN MARGARET ; PLASCO ENERGY GROUP INC ; CAMPBELL KENNETH CRAIG ; SHEN ZHIYUAN

Assignee(s): CANADIAN WATER PROJECTS INC ; NORTH SHORE POWER GROUP INC

Inventor(s): (std): TSANGARIS ANDREAS ; SWAIN MARGARET ; FEASBY DOUGLAS MICHAEL ; CUI MAO PEI ; CAMPBELL KENNETH CRAIG ; DOBBS GEOFFREY ; SHEN ZHIYUAN

Agent(s): MBM AND CO; K AND L GATES LLP

53) Family number: 47399508 (IN02547CN2010A)

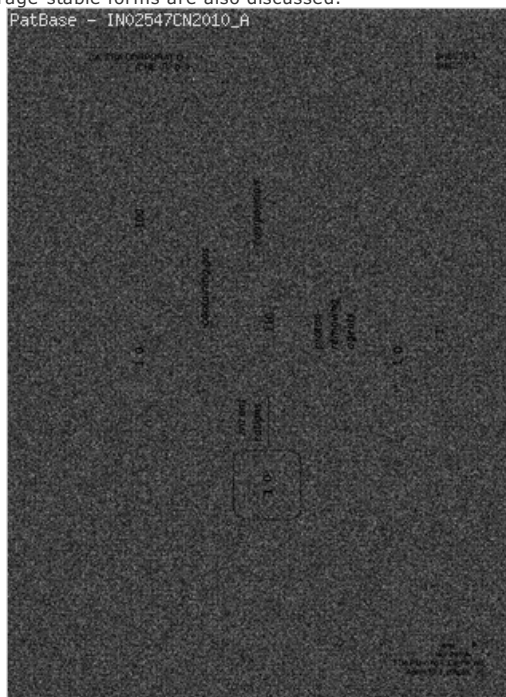
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Title: SYSTEMS AND METHODS FOR PROCESSING CO2

Abstract: Systems and methods for lowering levels of carbon dioxide and other atmospheric pollutants are provided. Economically viable systems and processes capable of removing vast quantities of carbon dioxide and other atmospheric pollutants from gaseous waste streams and sequestering them in storage-stable forms are also discussed.

Classifications:

International (IPC 8-9): B01D53/14 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
IN02547CN2010 A	20101022	IN2010CN02547	20100429

Priority:

US20090158992P 20090310 WO2010US26880 20100310

Probable Assignee: CALERA CORP

Assignee(s): CALERA CORP

Inventor(s): ELLIOTT ROBERT ; FARSAD KASRA ; O CONNOR RICHARD P ; SEEKER WILLIAM ; SELF KYLE ; WALL JUSTIN

54) Family number: 11989660 (US5902524A)

© PatBase

Title: Method and apparatus for heat treatment of an extrusion to extract chemicals and gases for injection into a second cold extrusion of inert media to combine and liquefy these in production of a product

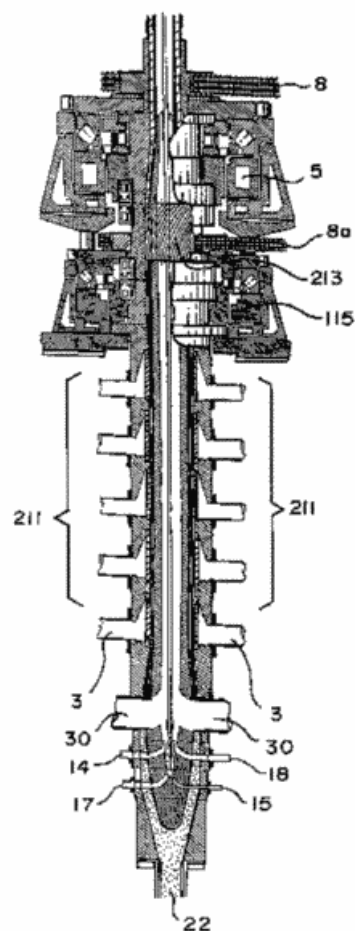
Abstract: A method and apparatus in which an extruder with vacuum evacuation and gas injection means is multi-charged with a plurality of materials to extrude these over streamlined fuel-admitting pipes to make a laminated tubular feedstock serving as a moving enclosure for an intense fire with a fusible liner-layer of encapsulating glaze shielding the said feedstock outer lamination as it exits the said nozzle to telescope within a rotating perforated support tube that permits the centrifugal escape of heat-generated fluids and gases within a prior evacuated, pressure-modulated enclosure from which said gases are fractionally expelled to thermal diffusion and centrifugal/parabola/cyclotron means providing molecular division by mass and weight after which the said divided gases are delivered into an evacuated inert media mass of particles moving in a like extrusion means to a like said rotating perforated tube but with elimination of the said laminated extruded lining replaced by a permanent solid support tube creating a torus space between it and the said perforated tube to retain the said inert media that churns in rotational passage to combine the injected gases and chemicals in formation of a product cooled by an exotherm-controlling cold gas or fluid driven through the center of said supporting tube which said cold causes the hot gases to reach liquefying vapor pressure points and exude from the said perforated tube into the enclosure for collection.

Classifications:

International (IPC 8-9): B01D53/24 C10B3/02 C10B53/00 C10B7/10 C10G1/00 C10G1/02 C10J3/56 (Advanced/Invention)

International (IPC 1-7): C01B31/00 C10B21/00 C10B3/02
C10B31/00 C10G1/00
CPC: B01J4/002 C10K1/02 C10K1/028 B01D53/24 C10B7/10
C10B53/00 C10G1/02 C10J3/56 C10J2300/1807 C10J2300/0906
European: B01D53/24 B01J4/00B2 C10B53/00 C10B7/10 C10G1/02
C10J3/56 M10J300/18B
US: 201/14 201/25 201/40 201/6 201/8 202/100 202/108 202/208
202/266 202/99 208/400 208/427 264/177.14 264/29.1 264/86
425/461 425/72.1 585/241

PatBase - US5902524_A



Family:

Publication number	Publication date	Application number	Application date
US5902524 A	19990511	US19960653967	19960528
US5964985 A	19991012	US19970863030	19970523
US6013158 A	20000111	US19990281219	19990330

Priority:

US19940190754 19940202 US19960653967 19960528 US19960019153P 19960604
US19970863030 19970523 US19990281219 19990330

Probable Assignee: WOOTTEN WILLIAM A

Assignee(s): (std): WOOTTEN WILLIAM A

Inventor(s): (std): WOOTTEN WILLIAM A

55) Family number: 43929099 (IN02377MN2008A)

© PatBase

Title: A GAS REFORMULATING SYSTEM USING PLASMA TORCH HEAT

Abstract: A method and apparatus is described for reformulating of an input gas from a gasification reaction into a reformulated gas. More specifically, a gas reformulating system having a gas reformulating chamber, one or more plasma torches, one or more oxygen source(s) inputs and control system is provided thereby allowing for the conversion of an input gas from a gasification reaction into a gas of desired composition.

Classifications:

International (IPC 8-9): C01B (Advanced/Invention)

International (IPC 1-7): C01B13/28

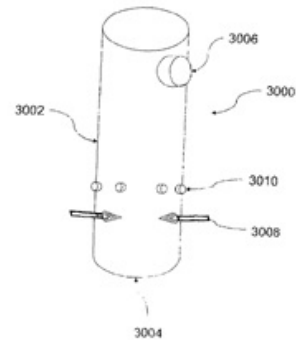


Figure 1

[Signature]
D. Aguilera, H. Arce, S.
Attorneys & Patent Agents
For and on behalf of Applicant

- 6 NOV 2008

Family:

Publication number	Publication date	Application number	Application date
HK1137406 A1	20100730	HK20100102191	20100302
HK1188200 A1	20140425	HK20140101321	20140212
IN02377MN2008 A	20090227	IN2008MN02377	20081106
IN258297 B	20140103	IN2008MN02377	20081106

Priority:

US20060797973P 20060505 US20060798075P 20060505 WO2006CA00881 20060605
US20060864116P 20061102 US20070911179P 20070411 WO2007US68397 20070507

Probable Assignee: PLASCO ENERGY IP HOLDINGS S L BILBAO**Assignee(s):** PLASCO ENERGY IP HOLDINGS S L BILBAO ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH ; PLASCOENERGY IP HOLDINGS S L BILBAO SCHAFFHAUSEN BRANCH**Inventor(s):** CAMPBELL KENNETH CRAIG ; CUI MAO PEI ; DOBBS GEOFFREY ; FEASBY DOUGLAS MICHAEL ; MCLEAN ALISDAIR ALAN ; SHEN ZHIYUAN ; SWAIN MARGARET ; TSANGARIS ANDREAS**Agent(s):** CLT PATENT AND TRADEMARK HK LTD; SHUN SHUN CHAN**56) Family number: 46842885 (US2010229725A)**

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Title: SYSTEMS AND METHODS FOR PROCESSING CO₂

Abstract: Systems and methods for lowering levels of carbon dioxide and other atmospheric pollutants are provided. Economically viable systems and processes capable of removing vast quantities of carbon dioxide and other atmospheric pollutants from gaseous waste streams and sequestering them in storage-stable forms are also discussed.

Classifications:**International (IPC 8-9):** B01D47/06 B01D47/14 B03C3/01

C01B32/60 (Advanced/Invention);

B01D47/00 B01D47/06 B03C3/00 (Core/Invention)

CPC: B01D53/1456 B01D53/18 B01D53/60 B01D53/62 B01D53/64

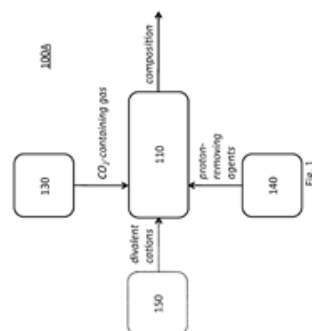
B01D53/78 B01D2257/302 B01D2257/404 B01D2257/504

B01D2257/602 Y02C10/04

European: B01D53/14H B01D53/18 B01D53/60 B01D53/62

B01D53/64 B01D53/78 L01D257/302 L01D257/404 L01D257/504

L01D257/602 Y02C10/04

US: 261/27 261/3 261/36.1 261/37 96/74**Family:**

Publication number	Publication date	Application number	Application date
US2010229725 AA	20100916	US20100721549	20100310

Priority:

US20090158992P 20090310	US20090168166P 20090409	US20090178475P 20090514
US20090178360P 20090514	US20090221457P 20090629	US20090221631P 20090630
US20090223657P 20090707	US20090228210P 20090724	US20090230042P 20090730
US20090239429P 20090902	US20090289657P 20091223	US20100306412P 20100219
US20100311275P 20100305	US20100721549 20100310	

Probable Assignee: CALERA CORP

Assignee(s): (std): O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL ; ELLIOTT ROBERT W ; FARSAD KASRA

Assignee(s): MOSS LANDING CEMENT CO LLC ; CALERA CORP

Inventor(s): (std): FARSAD KASRA ; ELLIOTT ROBERT W ; O CONNOR RICHARD P ; WALL JUSTIN ; SELF KYLE ; SEEKER WILLIAM RANDALL

Inventor(s): O'CONNOR RICHARD P

Agent(s): CALERA ERIC WITT CORP

57) Family number: 43929078 (CA2651335C)

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Title: A GAS REFORMULATING SYSTEM USING PLASMA TORCH HEAT

Abstract: A method and apparatus is described for reformulating of an input gas from a gasification reaction into a reformulated gas. More specifically, a gas reformulating system having a gas reformulating chamber, one or more plasma torches, one or more oxygen source(s) inputs and control system is provided thereby allowing for the conversion of an input gas from a gasification reaction into a gas of desired composition.

Classifications:

International (IPC 8-9): A62D3/38 B01D53/38 C01B13/28 C01B3/36 (Advanced/Invention);

A62D3/00 B01D53/38 C01B13/20 C01B3/00 (Core/Invention)

CPC: C10J3/485 C01B3/342 C01B2203/0216 C01B2203/0255

C01B2203/061 C01B2203/066 C01B2203/0861 C10J3/482

C10J2200/09 C10J2300/0983 C10J2300/1238 C10J2300/1618

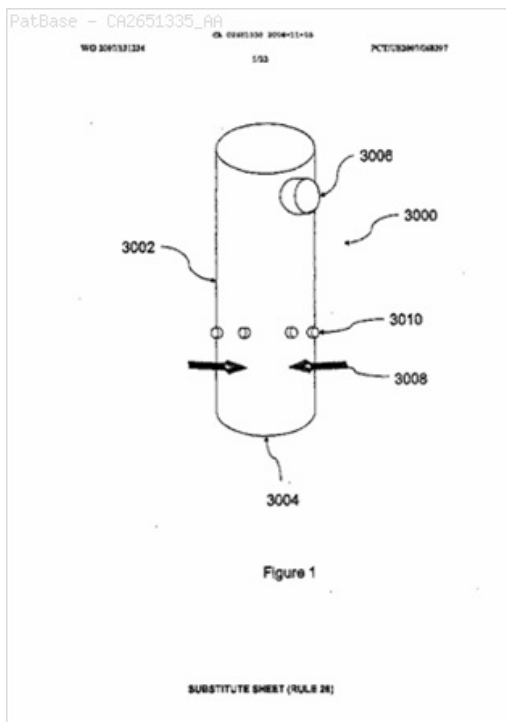
C10K3/008 F23G5/085 F23G2204/201

European: C01B3/34G C10J3/48B C10J3/48D C10K3/00B2F

F23G5/08C M01B203/02B2B M01B203/02D2 M01B203/06B

M01B203/06H M01B203/08B10 M10J200/09 M10J300/09H

M10J300/12H2 M10J300/16B12 R23G204/201 Y02E20/18



Family:

Publication number	Publication date	Application number	Application date
CA2651335 AA	20081105	CA20072651335	20070507
CA2651335 C	20130618	CA20072651335	20070507

Priority:

US20060797973P 20060505	US20060798075P 20060505	WO2006CA00881 20060605
US20060864116P 20061102	US20070911179P 20070411	CA20072651335 20070507
WO2007US68397 20070507		

Probable Assignee: PLASCO ENERGY GROUP INC

Assignee(s): (std): PLASCO ENERGY GROUP INC

Assignee(s): SHEN ZHIYUAN ; SWAIN MARGARET ; TSANGARIS ANDREAS ; CAMPBELL KENNETH CRAIG ; CUI MAO PEI ; DOBBS GEOFFREY ; FEASBY DOUGLAS MICHAEL ; MCLEAN ALISDAIR ALAN ; PLASCO CONVERSION TECHNOLOGIES INC

Inventor(s): (std): DOBBS GEOFFREY ; SHEN ZHIYUAN ; CUI MAO PEI ; MCLEAN ALISDAIR ALAN ; CAMPBELL KENNETH CRAIG ; SWAIN MARGARET ; TSANGARIS ANDREAS ; FEASBY DOUGLAS MICHAEL

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

58) Family number: 11909629 (DE4435349C1)

© PatBase

Title: DESTRUCTION OF POLLUTANTS AND GASIFYING OF WASTE IN A FLUIDISED BED

US8398738 BB	20130319	US20100686831	20100113
US8709122 BB	20140429	US20130778291	20130227
WO11087947 A2	20110721	WO2011US20306	20110106
WO11087947 A3	20111222	WO2011US20306	20110106

Priority:

US20100686831 20100113 WO2011US20306 20110106 US20130778291 20130227

Probable Assignee: UT BATTELLE LLC

Assignee(s): (std): BUCHANAN III ARCHIBALD C ; EVANS BARBARA R ; KIDDER MICHELLE K ; LEE JAMES W ; UT BATTELLE LLC ; UT BATELLE LLC

Assignee(s): BUCHANAN ARCHIBALD C III ; US DEPARTMENT OF ENERGY

Inventor(s): (std): LEE JAMES W ; KIDDER MICHELLE K ; EVANS BARBARA R ; BUCHANAN III ARCHIBALD C ; BUCHANAN ARCHIBALD C III

Inventor(s): BUCHANAN ARCHIBALD C

Agent(s): SHAPIRO COHEN; AVENTUM IP LAW LLP; ROBERTS MICHAEL AUSTIN; SCULLY SCOTT MURPHY AND PRESSER P C; SCULLY SCOTT MURPHY AND PRESSER PC; GROLZ EDWARD W

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

60) Family number: 46863865 (WO10105385A1)

© PatBase

Title: COAL GASIFICATION WITH ADDITIONAL PRODUCTION OF USEFUL MATERIALS

Abstract: The present invention relates to a process for the gasification of carbon-containing compounds, characterized in that compounds are added which form carbides under the process conditions. These carbides can be used for the synthesis of useful materials such as for example acetylene.

Classifications:

International (IPC 8-9): C01B31/32 C01B32/942 C10H21/00 C10J3/00 (Advanced/Invention); C01B31/00 C10J3/00 (Core/Invention)

CPC: C01B32/914 C01B32/935 C01B32/942 C10H21/00 C10J3/08 C10J3/463 C10J3/72 C10J2300/093 C10J2300/0943 C10J2300/0959 C10J2300/0973 C10J2300/0983 C10J2300/0996 C10J2300/1634 C10J2300/1838

European: C01B31/30D C01B31/30J C01B31/32 C10H21/00 C10J3/08 C10J3/46B C10J3/72 M10J300/09D12 M10J300/09D6 M10J300/09F14 M10J300/09F4 M10J300/09H M10J300/09H8 M10J300/16D2D M10J300/18F

Family:

Publication number	Publication date	Application number	Application date
CN102361961 A	20120222	CN200980158356	20090318
EP2408881 A1	20120125	EP20090841670	20090318
EP2408881 A4	20120229	EP20090841670	20090318
WO10105385 A1	20100923	WO2009CN000294	20090318

Priority:

WO2009CN000294 20090318

Probable Assignee: BAYER AG

Assignee(s): (std): BAYER TECHNOLOGY AND ENGINEERING SHANGHAI CO LTD ; LIU FEI ; BAYER TECHNOLOGY SERVICES GMBH ; MLECZKO LESLAW ; SCHLUETER OLIVER FELIX KARL ; MORHENN HEINRICH ; HAVERKAMP VERENA ; BAYER AG ; BAYER TECHNOLOGY AND ENGINEERI

Assignee(s): BAYER TECHNOLOGY AND ENGINEERING SHANGHAI CO

Inventor(s): (std): HAVERKAMP VERENA ; LIU FEI ; MLECZKO LESLAW ; MORHENN HEINRICH ; SCHLUETER OLIVER FELIX KARL ; VERENA HAVERKAMP ; LESLAW MLECZKO ; HEINRICH MORHENN ; FELIX KARL SCHLUETER OLIVER ; FEI LIU

Agent(s): NOHR GUIDO; PEKSUNG INTELLECTUAL PROPERTY LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

61) Family number: 46814472 (WO10051458A1)

© PatBase

Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING CO2 SEQUESTERING ADDITIVES

Abstract: Non-cementitious CO2 sequestering compositions are provided. The compositions of the invention include a CO2 sequestering additive, e.g., a CO2 sequestering carbonate composition. Additional aspects of the invention include methods of making and using the non-cementitious CO2 sequestering compositions.

Classifications:

International (IPC 8-9): B01D53/14 B01D53/62 B01D53/78 B09B3/00 C01B31/20 C01B31/24 C01B32/50 C01B32/60 C01F11/18 C01F5/24 C04B14/26 C04B14/28 C04B26/02 C04B28/00

C08K3/26 (Advanced/Invention);

B01D53/14 B01D53/62 B09B3/00 C01B31/00

C04B28/00 (Core/Invention);

B01D53/14 B01D53/62 C01B31/24 (Core/Non-invention)

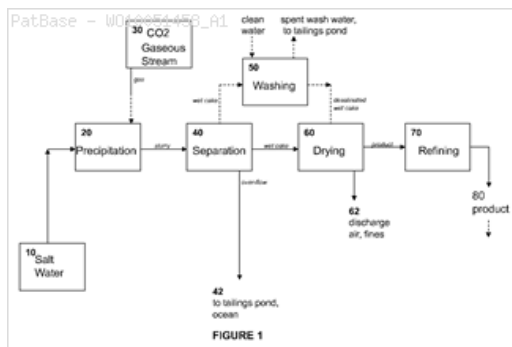
CPC: B01D53/78 B01D53/1418 B01D2251/40 B01D2257/504

C01F5/24 C01F11/18 C04B26/02 C08K3/26 Y10T436/23 Y02P20/152

C01B32/50

European: B01D53/14D B01D53/78 C01B31/20 C01F11/18

C01F5/24 C04B26/02 C08K3/26 L01D251/40 L01D257/504



Family:

Publication number	Publication date	Application number	Application date
AU2009287463 AA	20100520	AU20090287463	20091030
AU2009287463 BB	20100902	AU20090287463	20091030
CA2694980 AA	20100430	CA20092694980	20091030
CA2694980 C	20110920	CA20092694980	20091030
CN101925391 A	20101222	CN200980104015	20091030
EP2203241 A1	20100707	EP20090812408	20091030
EP2203241 A4	20110112	EP20090812408	20091030
EP2620207 A2	20130731	EP20130150415	20091030
EP2620207 A3	20130918	EP20130150415	20091030
TW201033121 A	20100916	TW20090136930	20091030
WO10051458 A1	20100506	WO2009US62795	20091030

Priority:

US20080110495P 20081031 US20090149949P 20090204 US20090181250P 20090526
EP20090812408 20091030 WO2009US62795 20091030

Probable Assignee: CALERA CORP

Assignee(s): (std): CALERA CORP ; CONSTANTZ BRENT R ; YOUNGS ANDREW ; PATTERSON JOSHUA

Assignee(s): CALERA CORPORATIONUS ; CONSTANTZ BRENT

Inventor(s): (std): CONSTANTZ BRENT R ; YOUNGS ANDREW ; PATTERSON JOSHUA ; CONSTANTZ BRENT ; JOSHUA PATTERSON ; ANDREW YOUNGS

Inventor(s): BRENT R CONSTANTZ

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; GOWLING LAFLEUR HENDERSON LLP; BROUGHTON JON PHILIP; CONNELL MARK; LONGLAND EMMA LOUISE; WITT ERIC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

62) Family number: 54420008 (US2013192783A)

© PatBase

Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING VATERITE AND METHODS THEREOF

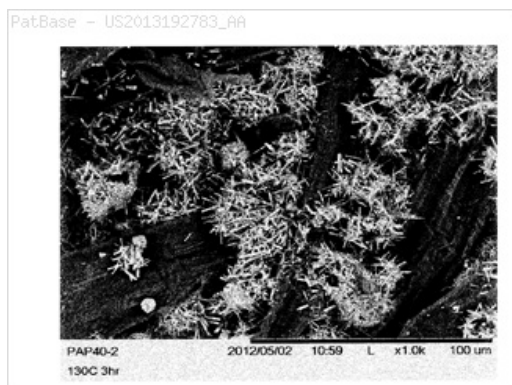
Abstract: Non-cementitious compositions and products are provided. The compositions of the invention include a carbonate additive comprising vaterite such as reactive vaterite. Additional aspects of the invention include methods of making and using the non-cementitious compositions and products.

Classifications:

International (IPC 8-9): B01D53/62 B01D53/73 B01D53/78 B01D53/80 C01B31/24 C01B32/60 C04B28/10 C08K3/26 D21H17/66 (Advanced/Invention)

CPC: D21H17/66 C04B28/10 C08K3/26 Y02W30/97 C08L21/00 C04B18/24 Y02P40/18 C01B32/60

US: 1/1 162/181.2



Family:

Publication number	Publication date	Application number	Application date
US2013192783 AA	20130801	US20130804558	20130314
US9133581 BB	20150915	US20130804558	20130314

Priority:

US20080110495P 20081031 US20090149949P 20090204 US20090181250P 20090526
US20090609491 20091030 US20100790317 20100528 US20110153815 20110606
US20120642281P 20120503 US20120649725P 20120521 US20130804558 20130314

Probable Assignee: CALERA CORP

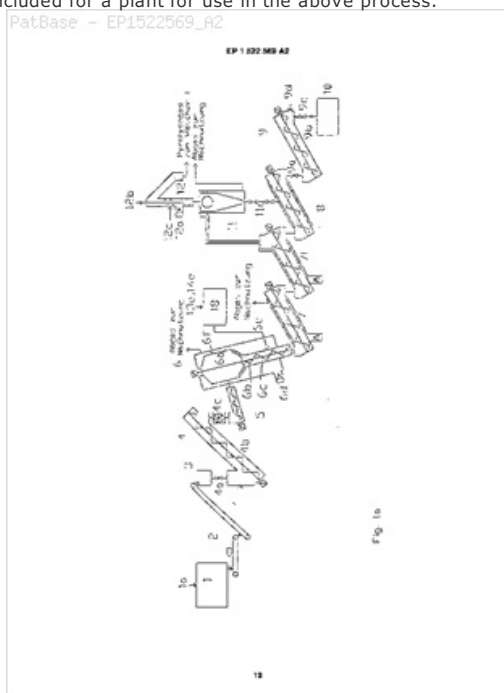
Assignee(s): (std): CALERA CORP

Agent(s): VANDANA; CALERA CORP

Abstract: In the upper mixing- and high temperature chamber (6a), pyrolysis gas is released and solid pyrolysis products result. These are all fed to the post-carbonization chamber (6c). They are extracted together with pyrolysis gas arising in this post-carbonization process. The pyrolysis gas is carried co-currently with the solid pyrolysis products. Hot air and/or hot steam are supplied at 800-1000[deg]C, with cracking and reaction of the pyrolysis gas, converting it to a synthesis gas (rich in H₂, CO). This is scrubbed and cooled. Tar oil fractions and/or solids/heavy oil fractions arising are recycled into the pyrolysis reactor. The gas temperature is maintained up to the first scrubber (13), where it is shock-cooled. Pyrolysis fluids arising at the gas scrubber are thermally-cracked. The gas/steam mixture arising from post carbonization is sent to a hot gas cyclone, to separate out the dust particles. An independent claim is included for a plant for use in the above process.

PatBase - EP1522569 A2

M10J200/09 M10J200/15F M10J300/09D14 M10J300/09D2
M10J300/09D6 M10J300/09F2 M10J300/12F M10J300/18F



Publication number	Publication date	Application number	Application date
DE10348142 B3	20050414	DE20031048142	20031010
EP1522569 A2	20050413	EP20040400039	20040721
EP1522569 A3	20050907	EP20040400039	20040721

DF20031048142 20031010

Assignee(s): (std): CIRCUTEC FOCUS ON FUTURE GMBH

Assignee(s): (std): CIRCUTEC FOCUS ON FUTURE GMBH

Inventor(s): (std): STUETZEL MICHAEL

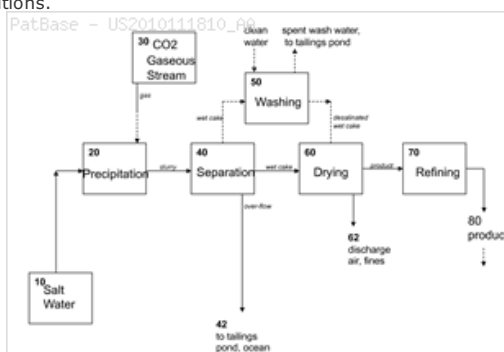
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

Abstract: Non-cementitious CO₂ sequestering compositions are provided. The compositions of the invention include a CO₂ sequestering additive, e.g., a CO₂ sequestering carbonate composition. Additional aspects of the invention include methods of making and using the non-cementitious CO₂ sequestering compositions.

PatBase = US2010111810 A9

C01F5/24 C01F11/18 C04B26/02 C08K3/26
C01B32/50

US: 423/158 423/165 423/172
436/145 436/139 73/866



Family:

Publication number	Publication date	Application number	Application date
US2010111810 AA	20100506	US20090609491	20091030
US7829053 BB	20101109	US20090609491	20091030

Priority:

US20080110495P 20081031 US20090149949P 20090204 US20090181250P 20090526
US20090609491 20091030

Probable Assignee: CALERA CORP

Assignee(s): (std): CALERA CORP ; CONSTANTZ BRENT ; PATTERSON JOSHUA ; YOUNGS ANDREW

Inventor(s): (std): YOUNGS ANDREW ; CONSTANTZ BRENT ; PATTERSON JOSHUA

Agent(s): CALERA ERIC WITT CORP

65) Family number: 55108906 (WO13165600A1)

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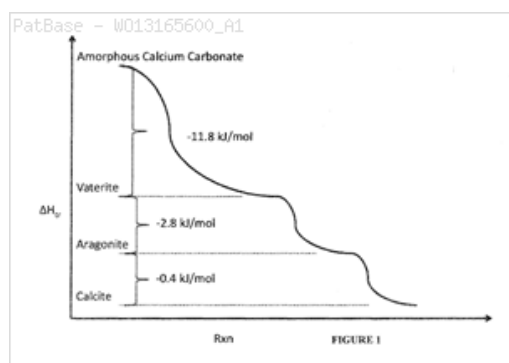
Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING VATERITE AND METHODS THEREOF

Abstract: Non-cementitious compositions, products, methods of making, and using include a carbonate additive comprising vaterite such as reactive vaterite. The carbonate additive has a carbon isotopic fractionation value ($\delta^{13}\text{C}$) of less than -12 percent. In some embodiments of the foregoing aspect and embodiments, the carbonate additive comprises between 50-99 percent w/w reactive vaterite. In some embodiments of the foregoing aspect and embodiments, the non-cementitious additive is more than 20 percent w/w cellulosic or polymeric fiber. In some embodiments of the foregoing aspect and embodiments, the composition comprises between 5-50 percent w/w carbonate additive. The composition is for a paper product; polymeric product; lubricant; adhesive; rubber; chalk; asphalt product; paint; abrasive for paint removal; personal care product; cosmetic; cleaning product; personal hygiene product; ingestible product; agricultural product; environmental remediation product; or combinations thereof.

Classifications:

International (IPC 8-9): C01F11/18 C04B2/02
D21H19/64 (Advanced/Invention)

CPC: C01F11/18 D21H17/675 D21H19/64 C01P2004/61
C01P2004/62 C01P2006/88 C04B30/02 Y02W30/97

**Family:**

Publication number	Publication date	Application number	Application date
WO13165600 A1	20131107	WO2013US31770	20130314

Priority:

US20120642281P 20120503 US20120649725P 20120521

Probable Assignee: CALERA CORP

Assignee(s): (std): CALERA CORP ; DEVENNEY MARTIN ; FERNANDEZ MIGUEL ; MORGAN SAMUEL O

Inventor(s): (std): DEVENNEY MARTIN ; FERNANDEZ MIGUEL ; MORGAN SAMUEL O

Agent(s): WILLIS MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

66) Family number: 46870618 (US2010239487A)

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Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING CO₂ SEQUESTERING ADDITIVES

Abstract: Non-cementitious CO₂ sequestering compositions are provided. The compositions of the invention include a CO₂ sequestering additive, e.g., a CO₂ sequestering carbonate composition. Additional aspects of the invention include methods of making and using the non-cementitious CO₂ sequestering compositions.

Classifications:

International (IPC 8-9): C01B32/50 C01B32/60 C01F11/18

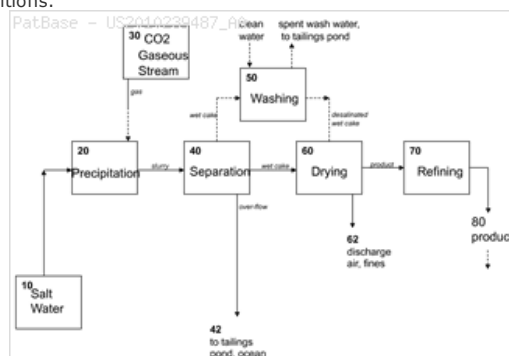
C01F3/00 C01F5/24 (Advanced/Invention);

C01F11/00 C01F3/00 C01F5/00 (Core/Invention)

CPC: B01D53/78 B01D53/1418 B01D2251/40 B01D2257/504
C01F5/24 C01F11/18 C04B26/02 C08K3/26 Y10T436/23 Y02P20/152
C01B32/50

European: B01D53/14D B01D53/78 C01B31/20 C01F11/18
C01F5/24 C04B26/02 C08K3/26 L01D251/40 L01D257/504

US: 423/430 423/430P



Family:

Publication number	Publication date	Application number	Application date
US2010239487 AA	20100923	US20100790317	20100528

Priority:

US20080110495P	20081031	US20090149949P	20090204	US20090181250P	20090526
US20090609491	20091030	US20100790317	20100528		

Probable Assignee: CALERA CORP

Assignee(s): (std): CONSTANTZ BRENT ; YOUNGS ANDREW

Assignee(s): CALERA CORP

Inventor(s): (std): CONSTANTZ BRENT ; YOUNGS ANDREW

Agent(s): CALERA ERIC WITT CORP

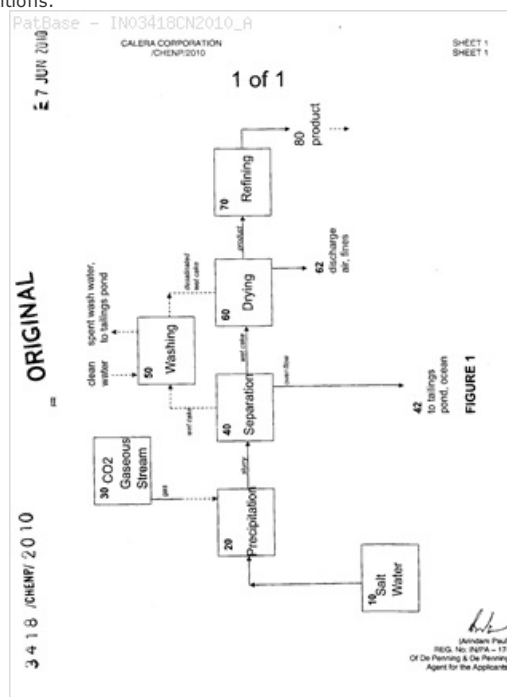
67) Family number: 47690513 (IN03418CN2010A)

Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING CO₂ SEQUESTERING ADDITIVES

Abstract: Non-cementitious CO₂ sequestering compositions are provided. The compositions of the invention include a CO₂ sequestering additive, e.g., a CO₂ sequestering carbonate composition. Additional aspects of the invention include methods of making and using the non-cementitious CO₂ sequestering compositions.

Classifications:

International (IPC 8-9): B01D53/14 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
IN03418CN2010 A	20101126	IN2010CN03418	20100607

Priority:

US20080110495P 20081031 WO2009US62795 20091030

Probable Assignee: CALERA CORP

Assignee(s): CALERA CORP

Inventor(s): YOUNGS ANDREW ; PATTERSON JOSHUA ; CONSTANTZ BRENT

68) Family number: 49699782 (US2011240916A)

Title: NON-CEMENTITIOUS COMPOSITIONS COMPRISING CO₂ SEQUESTERING ADDITIVES

Abstract: Non-cementitious CO₂ sequestering compositions are provided. The compositions of the invention include a CO₂ sequestering additive, e.g., a CO₂ sequestering carbonate composition. Additional aspects of the invention include methods of making and using the non-cementitious CO₂ sequestering compositions.

Classifications:

International (IPC 8-9): C01B32/50 C01B32/60

C09K3/00 (Advanced/Invention)

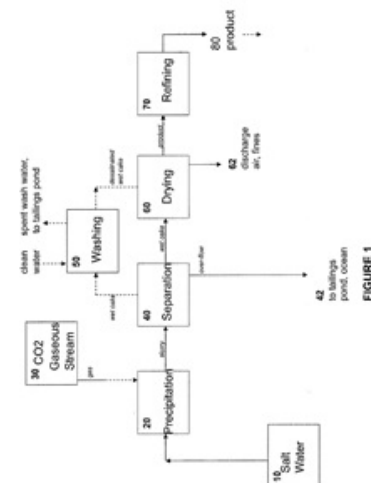
CPC: B01D53/78 B01D53/1418 B01D2251/40 B01D2257/504

C01F5/24 C01F11/18 C04B26/02 C08K3/26 Y10T436/23 Y02P20/152

C01B32/50

European: B01D53/14D B01D53/78 C01B31/20 C01F11/1

US: 252/184 252/184P



Publication number	Publication date	Application number	Application date
US2011240916 AA	20111006	US20110153815	20110606

US20080110495P	20081031	US20090149949P	20090204	US20090181250P	20090526
US20090609491	20091030	US20100790317	20100528	US20110153815	20110606

Probable Assignee:	CALERA CORP
Assignee(s): (std):	CONSTANTZ BRENT ; YOUNGS ANDREW
Assignee(s):	CALERA CORP
Inventor(s): (std):	YOUNGS ANDREW ; CONSTANTZ BRENT

Abstract: Source: DE202016106513U1 [DE] Vorrichtung zur Aufbringung eines Kuehlmittelfilms auf der Innenflaeche eines Heissgasrohres, wobei – das Heissgasrohr senkrecht und konzentrisch unter einer zentralen Eintrittsoeffnung (2) fuer einen Heissgasstrom (G) angeordnet ist, die sich in einem oberen horizontalen Boden (3) befindet, – am oberen Ende des Heissgasrohres ein Ringkanal (5) fuer fluessiges Kuehlmittel (6) angeordnet ist, dessen Innenflaeche (9) den Innendurchmesser des Heissgasrohres aufweist, – der Ringkanal (5) mehrere tangentielle Kuehlmittelzuleitungen (7) aufweist, die gleichmaessig ueber dessen Umfang verteilt sind, – der Ringkanal (5) einen auf der Innenflaeche (9) horizontal umlaufenden Ringspalt (8) fuer das Abfliessen von Kuehlmittel (6) auf die Innenflaeche (9) aufweist, dadurch gekennzeichnet, dass vor dem Ringspalt (8) eine Ringblende (10) konzentrisch und mit geringem Abstand von der Innenflaeche (9) angeordnet ist, wobei • die Ringblende (10) im Bereich ihrer Oberkante (11) auf der Aussenseite verstaerkt ist • die Oberkante (11) oberhalb des Ringspaltes (8) ueber den gesamten Umfang mit der Innenflaeche (9) des Ringkanals (5) spaltfrei verbunden ist und • unterhalb des Ringspaltes (8) ueber diskrete umfangsverteilte Abstandsstuecke (12) mit der Innenflaeche (9) des Ringkanals (5) verbunden ist, so dass zwischen der Ringblende (10) und der Innenflaeche (9) des Ringkanals (5) ein nach unten offener Austrittsspalt (13) fuer das Kuehlmittel (6) gebildet ist.

International (IPC 8-9): C10J3/48 C10J3/52
C10J3/56 (Advanced/Invention)
CPC: C10J3/845 C10J3/485

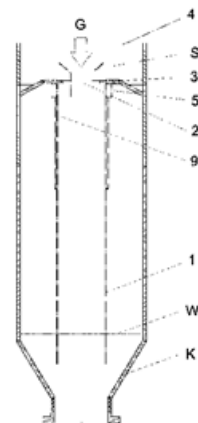


Fig. 1

14/18

Family:

Publication number	Publication date	Application number	Application date
CN208472001 U	20190205	CN201721533913U	20171116
DE202016106513 U1	20170223	DE201620106513U	20161121

Priority:

DE201620106513U 20161120 DE201620106513U 20161121

Probable Assignee: CHOREN IND GMBH

Assignee(s): (std): CHOREN IND GMBH

Assignee(s): CHOREN INDUSTRIETECHNIK GMBH ; COLIN INDUSTRIAL TECHNOLOGY CO LTD

Inventor(s): (std): EBERHARD KUSKE ; STEPHAN LASKOWSKI