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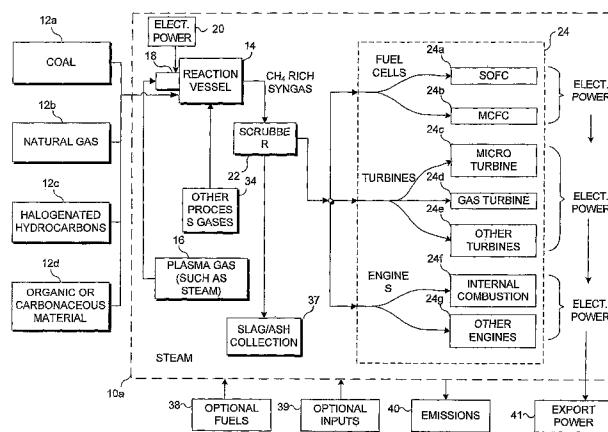
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(54) Title: INDUCTIVELY COUPLED PLASMA/PARTIAL OXIDATION REFORMATION OF CARBONACEOUS COMPOUNDS TO PRODUCE FUEL FOR ENERGY PRODUCTION



(57) Abstract: Inductively coupled plasma (ICP) reformation converts carbonaceous compounds into a fuel for use in generating electrical power. Energy rich hydrocarbon fuels, such as coal, marine diesel, oils, and hydrocarbon wastes are employed as a feedstock for the ICP, which transforms the feedstock into a fuel that can be used by fuel cells and gas turbines for the production of electricity. Overall efficiency of an ICP based electrical power system can be increased by providing partial oxidation within the reaction vessel. Partial oxidation conditions consume a small amount of the reformed fuel gas, thereby liberating sufficient thermal energy to reduce the electrical power requirements of the ICP to maintain desired reactor temperatures, and providing an increase in the overall net electrical power production. Integrated power production system can also adjust to meet an increased requirement for process heat and steam by balancing the effect of partial oxidation.

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,153,852 A (BLUTKE ET AL) 28 NOVEMBER 2000, SEE ENTIRE DOCUMENT.	1-63
Y	US 5,484,978 A (HEDBERG ET AL) 16 JANUARY 1996, SEE ENTIRE DOCUMENT.	1-63
Y,E	US 2005/0158594 A1 (AHMED) 21 JULY 2005, SEE ENTIRE DOCUMENT.	4-6,20-23,27-29,35-38,55-57
Y	US 2002/0174659 A1 (VITERI ET AL) 28 NOVEMBER 2002, SEE PARAGRAPHS 32-34 IN VITERI ET AL.	4-6,20-23,27,29, 35-38,55-57

Further documents are listed in the continuation of Box C. See patent family annex.

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