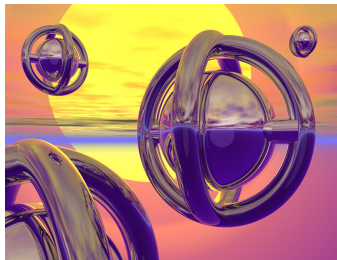


HIGH TEMPERATURE CARBON RECYCLING GASIFICATION

TECHNOLOGY OVERVIEW



The subject invention is an economic method of gasification that improves the overall efficiency of any process generating CO₂ as a by-product to efficiently produce syngas which is an inexpensive energy source. Syngas is a carbon bearing fuel used in electric power generation, chemical manufacturing and production of fuels by the Fischer-Tropsch synthesis. It is produced by recycling CO₂ by-products to gasify carbon-bearing fuels under high temperatures, surpassing sequestration or any form of CO₂ separation. This increases the cost-effectiveness of the process in addition to improving the quality of the product.

POTENTIAL FIELDS OF USE

The technology has strong potential applications for industries involved in the production of clean energy and those pursuing the development of alternative fuels. The U.S. is targeting an 18% reduction in carbon releasing activity by 2012 through the Global Climate Change Initiative (GCCCI) to offset the increasing emission of CO₂. The bio-fuel sector of the global clean-energy market is projected to grow from \$26 billion in 2006 to \$80 billion by 2016, which shows increasing investment in the sector. Low-cost innovative energy producing solutions are high in demand to meet these opportunities.

BENEFIT ANALYSIS

Some of the key benefits of the proposed technology:

- Complies with international environmental guidelines mandating reduction in CO₂ emission by providing an eco-friendly option for large-scale disposal of CO₂ by-products.
- Reduces the cost of the intermediate scale gasification system by eliminating the previous requirement of sequestering CO₂.
- Reduces the input of fossil fuels and the consequential environmental impact.
- Enhances the quality of syngas by reducing tar production through gasification reactions that occur at extremely high temperatures.
- Increases per unit input fuel production to achieve viability for industrial applications.

STAGE OF DEVELOPMENT

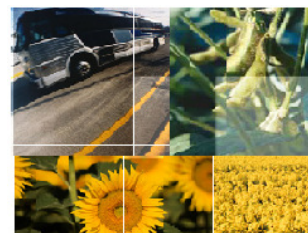
The technology is at an early stage of development having provided a theoretical analysis of the proposed system. Non-carbon based hydrogen sources are being identified as they are vital for the production of fuels.

FUTURE DEVELOPMENT

A feasibility study and system testing is proposed to verify the process' actual system and economic efficiency. R&D is required to ensure its cost-effectiveness over currently used CO₂ sequestering techniques.

LICENSING OPPORTUNITIES

A patent for the technology has been applied. Licensing opportunities are available.



SYNGAS

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