

## Today's News

### Renewable Hydrogen, High Volume Carbon Sequestration and a Nitrogen Fertilizer Offer a Sustainable Future

[Survey](#)[Website](#)

BLAKELY, Ga., Aug. 27 /PRNewswire/ -- The hydrogen research team from Clark Atlanta University, Georgia Institute of Technology, DOE National Renewable Energy Laboratory (NREL), Scientific Carbons, Inc. and Envirotech, Inc., at 11:46 PM on August 25, began producing hydrogen from biomass while permanently sequestering 25% by weight of the material. The resulting carbon, in its activated state as produced with USDA AARC funding, is highly adsorbent and can be combined with co-products of the process to form a slow-release nitrogen fertilizer. The fertilizer and farm industry can use this process to offer a verifiable carbon sequestration service while increasing farm income and crop yields. The use of the sequestered carbon as a carrier for nitrogen and as a soil amendment, preventing harmful runoff of farm chemicals is a win-win for farmers. Fertilizer manufacturers and farmers can become a major force in the battle against global warming while facilitating the production of hydrogen from renewable resources.

This work in hydrogen production is the culmination of a two-year field research project. The first hour of the 100-hour demonstration showed the clear difference system's two flares. The yellow hydrocarbon rich flame contrasted against the almost clear flame, slightly blue from a small amount of methane. The project has focused on expanding the demonstration of hydrogen production while producing valuable co-products from farm and forestry sources of biomass. Co-products are essential to the economics of sustainable hydrogen production.

Scientific Carbons, Inc. (SCI) is a technology development company focused on bio-refining. On August 22, 2002, SCI and NREL filed for patent protection on a slow-release fertilizer made while producing biomass based hydrogen and a sequestered carbon co-product. Danny Day, President of Scientific Carbons said, "The preliminary numbers look promising. A small percentage of the global unused agriculture and forestry waste could sequester the amount of carbon building up in our atmosphere and deliver nitrogen to plants that can sequester even more. Using this technique, farming could be the most successful and economically profitable method of sequestering the excess atmospheric carbon generated by fossil fuels. Economic development can lead to innovative sequestration techniques and we want to help demonstrate sustainable ways to serve mankind."

The announcement by U.S. government of commitments of over \$20 billion to global warming research has demonstrated the seriousness of the issue of carbon build up in our atmosphere. Carbon sequestration without economic benefits would strain the global economy and hurt the poorest nations first by reducing investment dollars available for economic development. SCI is currently seeking international partners and facilities to continue this important research. Mr. Day said, "This work benefits the farm economy and ultimately, all life on earth."

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