

HYTEK-Bio, LLC
6502 Micro Drive, Dayton, MD 21036
410.262.5113 410.531.2605 fax
www.hytekbio.com

FOR IMMEDIATE RELEASE

For More Information, Contact:
Paul Rosenberger
HYTEK-Bio LLC
410.262.5410
fax 443.459.5732
prosenberger@hytekbio.com

Baltimore County Bio-tech Firm Gets City & State Support

A Single Algae Strain Answers Question of Global Warming

BALTIMORE, MD (December 18, 2013) – On the grounds of the Back River Wastewater Treatment Plant in Baltimore County, a small pre-fab building houses HY-TEK Bio LLC, an emerging global leader in reducing greenhouse gases and replacing them with pure oxygen.

Founder Robert M. Mroz and his team isolated a strain of *algae* (dubbed *HTB-1*) from over 400,000 varieties to convert CO₂ and other toxins into O₂ through a natural – and greatly accelerated – photosynthesis process.

Unlike other algae strains, that means that HTB-1:

- Grows extremely fast and thick
- Consumes large amounts of CO₂, NO_x and SO₂ and converts them into O₂ at a much higher rate than other processes.
- Uses far less energy than other methods
- Thrives on 100% CO₂ and a much wider range of PH than other algae
- Produces copious amounts of lipid oil (*for bio-fuel*) and contains other valuable, marketable compounds
- Is not genetically modified, but naturally indigenous to the Chesapeake Bay

Baltimore City was convinced by Mroz's initial findings and funded HY-TEK Bio with a \$255,000 grant to further study the capture of methane gas and liquid, produced from the solid waste at the Back River plant, and convert the gas into oxygen and marketable by-products.*

"Our results are on a limited scale right now, but the results outstrip all other similar processes on a global basis," Mroz said. "HY-TEK currently collects about one percent of all "flue gas" waste product from the plant, but Baltimore City has indicated building a larger facility to mitigate 100 percent of the flue gas from the plant will be converted by our HTB-1 algae."

Ted Atwood, director of Baltimore City's Department of General Services, said his department analyzed primary data and confirmed that HY-TEK could process over 100 percent of the flue gas. "Their performance has looked good. They would need more land, and that's something we would look into for them," Atwood said.

Other entities also have seen the potential of HTB-1. The Maryland Industrial Partnerships (MIPs) Program awarded the young company an additional \$100,000 grant to continue its research, while 26 corporate sponsors have donated about \$850,000 in supplies and expertise.

Mroz, retired from a senior level position at the Federal Communications Commission, has advanced degrees in engineering and computer sciences, and a knack for fostering relationships with government and corporate partners.

For more information or to schedule an interview, please contact Paul Rosenberger at 410.262.5410, or prosenberger@hytekbio.com.

###

* See supplemental information sheet.

Supplemental Information

HYTEK-Bio, LLC

6502 Micro Drive, Dayton, MD 21036

410.262.5113 410.531.2605 fax

www.hytekbio.com

As HYTEK-Bio LLC optimized the process to convert CO₂ and other toxins into O₂ through a natural – and greatly accelerated – photosynthesis process, founder Bob Mroz developed associated technologies to reduce the cost of each process, while improving the performance. Each of the processes below has patents pending and can be marketed on their individual merits and ingenuity.

Containment

The mitigation of flue gases and production of O₂ calls for bioreactors to contain algae, large amounts of water and nutrient to foster algal growth. Currently available stainless steel tanks up to 20 feet in height were prohibitive in cost, so Bob Mroz partnered with Dimension-Polyant of Annapolis (*makers of America's Cup sailcloth*) to produce a seamless, light-weight containment unit that can be used for a multitude of purposes. The units are a patent-pending technology made of laminated Mylar with carbon fiber mesh that are:

- Strong and light
- 65 lbs. when rolled up
- Ship anywhere overnight
- Hold 20' x 4' (8 Tons) of water
- Cost 90% less than stainless steel
- Can be set up in one day
- Other uses - water, fuel, food
- Made in the USA

Injection System

The HYTEK-Bio full-floor injection system creates micron-sized bubbles for instant dissolving of the flue gas into the culture; slow rise provides algae time to consume greenhouse gases, and a full tank “fizz” action creates circulation and deep light penetration

Our patent-pending LED Grow Light System:

- High power focused LED lights
- Matched to algae absorption
- 20-22% improvement in growth
- 90% less power needed than regular LEDs
- 90% less heat generated than regular LEDs
- Only 250W to light a 20' bioreactor
- Can run off-grid with PV solar
- No detrimental light waves

Nutrient

A low-cost nutrient is needed to sustain the rapid growth of the HTB-1 algae strain, but current formulas proved too expensive. In conjunction with corporate partners, HYTEK-Bio has developed an inexpensive, clear liquid nutrient

- HYTEK-Bio has developed a process to convert chicken manure into a clear liquid that is rich in nitrogen and phosphorus needed for rapid algae growth.
- This process allows us to use a very inexpensive and readily available nutrient, while helping to resolve an outstanding environmental problem.

Validation & Supporting Organizations:

- University of Maryland Center for Environmental Science
- Institute of Marine & Environmental Technologies
- The Maryland Industrial Partnerships Program
- Maryland Dept of Natural Resources
- The Maryland Clean Energy Center
- Baltimore City Energy Division
- U.S. Department of Energy

For more information or to schedule an interview, please contact Paul Rosenberger at 410.262.5410, or prosenberger@hytekbio.com.

