**Benefits**

- Commercially viable
- Cost efficient
- Capturing CO2 emissions
- NOx Sequestering
- Addressing an environmental problem that has economical payback
- Producing a feedstock that will decrease our dependence on imported oil
- A feedstock source that is not competing with a food source
- Optimal use of ground space
- Knowledgeable and experience personnel
- Fits to an existing application with minimal impact
- The RWE process, design and manufacturing strategy saves substantial capital by saving time, water, chemicals and electricity while consistently producing a quality product
- Ability to customize based on individual client needs
- Scalable and modular

**Products & Services**

**ALGAE OIL**
Feedstock for Bio Fuels (Biodiesel & Ethanol)
JP8 Jet Fuel (Flights have been flown)
Military Jet Fuel (experimental stage)
Algae Crude Oil for refinement (research stage)
Lubrications (non petroleum based, & renewable)
Bio Polymers (bio plastics etc.)

**ALGAE BIOMASS AND ALGAE CAKE**
Qualifies as an organic animal feed
Qualifies as an organic fertilizer
Fuel source for power generation
Proven nutriceutical industry applications
Proven pharmaceutical applications
Cosmetic applications

**SERVICES**
Equipment Supplier
Technical Advisors
Customer specific for industrial applications
Power process engineering consultants
Process design
Operations & production management if needed
Secure Internet based monitoring software

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225 Industrial Drive
Georgetown, South Carolina 29440
843/ 527-0810

www.RWEnergies.com
RWE is a South Carolina based company founded on solid financials and sound science. RWE is pioneering a new era of mass adoption of bio-fuel by launching the first commercially-viable, closed system, automated microalgaeproduction facility in the world. Over the past six years, Tim Tompkins and Richard Armstrong, RWE’s principals, developed a scalable closed system bioreactor for growing algae that is completely automated. Not only is the system able to grow, harvest, and extract oil from microalgae at a remarkably low cost, but the process also captures Carbon and NOx gases via Flu-Gas or bottled CO2 providing a highly nutritious livestock feed source.

In the short term, RWE’s mission is to be the leader in the manufacture and sale of the patented RWE algae photo-bioreactor, and to be a lead supplier of the products and services associated with such manufacture and sale: These products range from algae biomass to algae oil, with uses for a number of industries including: power generation, pharmaceutical, nutriceutical, aquatic industries, and the cosmetic field. Longer term, RWE intends to spend time looking inward to discover the many other profitable and viable uses of RWE’s core technology. RWE is passionate about utilizing its technology in every way possible.

Technology

The RWE Large Scale Photo-Bioreactor

RWE’s revolutionary large scale bioreactor, the RWE Photo-Bioreactor, is at the heart of the project. This patent pending bioreactor consists of three primary components: a vertical pond, automated process control equipment, and harvesting equipment.

The vertical pond system employed uses 4’ wide by 6’ high by 3’ thick panels designed by our process control engineers to have specific characteristics of light penetration and flow to maximize the algae growth. The panels are vertically situated in a “rack” design to facilitate quick installation with uniquely designed piping headers.

The automation of the system consists of specific instrumentation, valves, algorithms, and control parameters designed by RWE engineers as part of RWE’s patent pending intellectual property. The system design allows for mass production, low cost, and easy assembly. Our unique system circulates the water, nutrients, and CO2 required to grow the algae through the tank and panels. Several instruments in the system monitor pH, temperature, and other control variables. Automated valves adjust based on the information provided by the instruments to adjust the control parameters, i.e., temperature, nutrient levels and pH.

Mass Operational Control / Scalability

RWE has an innovative and efficient method for regulating our system. The entire process is controlled via a computerized system with proprietary software and a proprietary hardware configuration while an “Operator Interface” provides the operator with diagnostics and total control of the process. This graphic interface resides on computers located in the dedicated electrical/operator building. The electrical/operator building houses the electrical equipment to power the algae pumps, instruments, and heating/cooling system, as well as a computer with display allowing us to operate and account for trend/historical information including temperature, pH, and control information. The Operator Interface allows an individual to select between automatic or manual control of the production process (i.e. /close valves, turn pumps off & on, perform manual harvests or automatic harvests, etc.). It can also be operated via the Internet with the appropriate pass codes, ensuring that only authorized persons can access the system.