



Statistics:

Symbol: ECTH

Web: www.ecotechenergygroup.com

52-week price range: \$0.11- \$0.68

Recent price (10/5/12):\$0.11

Fiscal year ends: December 31

Market cap: \$22.3 million approx.

Average daily volume: 4,900 approx.

Common shares out: 203 Million

ecoTECH Mission: “To supply renewable & sustainable energy products to end users and utility companies globally through the development of power stations and biomass-to-fuel conversion equipment in order to meet federal, provincial and state-mandated regulatory requirements and community-driven needs.”

Business Summary:

ecoTECH Energy Group Inc. (Symbol:ECTH) is a development-stage renewable energy company which plans to manufacture biomass-fueled Power Stations that produce renewable and sustainable “green” energy products. The Company specializes in the development and operations of thermal, 24/7, “firm” electricity supply from “zero-carbon-footprint” power stations which utilize proprietary ecoTECH technologies that have been continuously improved and refined over the past 30 years. ecoTECH intends to build five CHP Power Stations across North America during the next five to seven years. Active negotiations are in process with site owners, fiber suppliers, municipalities, utility companies and energy brokers. The Company is in the ground-breaking stage of three large projects located across North America, in both the U.S. and Canada. Using local wood waste biomass, these projects would provide electricity and fuel products to multiple communities, with excess energy production available to external utility companies and energy brokers which can be transferred easily via the Grid infrastructure. In addition to utilizing the Company’s proprietary technologies, these projects will also incorporate proven technologies created by external parties with which the Company has partnered. ecoTECH’s focus is within North America first with plans to pursue other world markets subsequently, and believes that our comprehensive approach is unique in the Energy Sector. ecoTECH is supplementing its CHP Power Stations and torrefied briquette facilities by developing and operating greenhouses, indoor food fish propagation facilities, and cold store facilities that further use by-produced heat and carbon dioxide from the CHP stations. These projects create adjunct profitable activities which provide regional production of organic foods, heat exchange cold storage and other products which are essential elements of our 21st century sustainable way of life. The demand for all of the products and services we offer is growing with international environmental awareness and the knowledge of the importance of sustainability across the world. ecoTECH believes that its comprehensive approach is unique in the energy sector.

Divisions & Technologies

Combined Heat and Power (CHP) Bio-Energy Production Division

The CHP Bio-Energy Production division uses biomass-to-energy technology to produce and provide renewable, clean power directly to the Grid, utility companies, power brokers, large industrial manufacturers and other end users. Our CHP Bio-Energy Power Station will produce heat and power by converting sustainable (closed or open loop) biomass or similar biomass through a thermal gasification process into heat (producing virtually zero harmful emissions), which is then converted into electricity. ecoTECH has proprietary thermal power generation technology utilizing several patented components making it arguably the cleanest and most efficient thermal technology today. We combine our own technology with the proven high quality technologies of both Turboden (a United Technologies company) and WOW Energies to transition the heat generated into usable power. Provided that the appropriate infrastructure exists, ecoTECH can transmit energy/electricity to unlimited end users, or directly into the Grid to be distributed by local utility companies. During the electricity generation process, a heat by-product is produced which would normally be classified as waste heat however, we like to utilize all available energy from these highly efficient units, so the energy in the by-produced heat is captured and circulated in an ecoTECH Thermax® site heating high-flow hot oil systems. The oil is transferred in underground pipes at a temperature of 700° F. (370° C), and is used to heat the airless roasting chamber for our torrefaction process. Residual energy is used in other site heating systems before reheat by the ecoPHASER system. The Company’s Power Station includes an “ecoPHASER”, which is a Sublimation Reactor and Sonic Standing Wave Pulsed Burner fueled by such feedstocks as: coal, lignite, leonardite, peat, chipped tires, straw, wood waste, forestry slash, croppings, coke, bark, sawdust, paper, natural gas, landfill gas, bagasse, presorted garbage, manure, dried sewage and municipal solid waste. Any and all of the aforementioned are viable and cost effective fuel feedstocks. The efficiency of the ecoPHASER allows traditional fuels such as coal or natural gas to be efficiently processed into electricity, producing emissions well below current regulatory requirements. The ecoPHASER produces a near-zero NOx exhaust, comprising mainly of Nitrogen and CO₂. The inert exhaust gases are piped to the sealed, flow-through drying

tunnel, where the ambient moisture (<35%) wood chips are anaerobically heat-dried to <10% moisture. The zero-oxygen environment is sustained throughout the entire process. Whereas other processes rely on exothermic oxidation of the material to produce friable biochar, our process creates fiber embrittlement from super dehydration and thermal breakdown without oxygen, so the lift of hydrocarbons associated with aerobic char production and thermal oxidation of energy components cannot occur. Therefore, latent energy remains in the wood as it is rendered friable. Upon exiting the roast oven, the flue gas is returned to the ecoPHASER system's exhaust stack, whilst the biomass is ground to optimum granule size before mixing with the lignin binder extracted from wood by our separate Bio-Still™ process, prior to briquetting. The fully roasted chips are ground to an optimum fuel granule size required by the client power stations and mixed with 1.5% by weight dried lignin. The mixture is conveyed to an array of briquetters where it is compressed into the finished product. Most briquettes are 120 mm square cushion style, but the dies can be changed to suit client requirements.

Torrefied Bio-Fuels Manufacturing and Distribution Division

The Torrefied Bio-Fuels division manufactures and distributes "green-fuel" via torrefied briquette plants powered by surplus heat and energy provided by the CHP Power Stations. Green-fuel is a wood-based "clean fuel" product that has been torrefied and pelletized, resulting in a highly-condensed wood fuel product which has roughly equal calorific value as standard coal and can be burned in the exact same manner but with greatly reduced emissions.

Torrefaction Technology:

Torrefaction is a scientifically proven method for improving the properties of biomass as a fuel. Torrefaction is the thermo-chemical treatment of biomass at 200 to 300°C, carried out under atmospheric conditions and in the absence of oxygen. During the process the biomass partly decomposes, giving off various types of volatiles. The final product is the remaining solid, which is often referred to as torrefied biomass, or torrefied wood when produced from woody biomass. Typically, 70% of the mass is retained as a solid product, containing approximately 90% of the initial energy content. The remaining 30% of the mass is converted into torrefaction gases, but contains only approximately 10% of the energy content of the biomass. Hence a considerable energy densification can be achieved, typically by a factor of 1.3 on mass basis. This example points out one of the fundamental advantages of the process, which is the high transition of the chemical energy from the feedstock to the torrefied product, while concurrently the fuel properties are improved. Torrefaction can potentially be applied to a wide variety of biomass (softwood, hardwood, herbaceous, wastes) so that the range of biomass feedstock for torrefied wood briquettes can be greatly increased. The Company plans to apply torrefaction technology to increase the energy output in biomass products and to provide a coal-like product with significant environmental advantages. The torrefied biomass has also proven to have hydrophobic (resistant to or avoiding wetting) properties which are welcome during storage. From the pelletization viewpoint, the implementation of torrefaction within the pelletization process offers theoretical solutions to the problems encountered with the durability and biological degradation of wood pellets.

Fresh Foods Systems Division

ecoTECH's proprietary biomass energy and fresh food systems division has recently received a 5 year supply purchase contract of approximately \$12 million dollars per year from one of Canada's largest supermarket chains. ecoTECH has developed proprietary biomass to energy and has licensed proven fresh food production systems that deliver quality and quantifiable advantages in the sector of fresh fish and vegetable production without artificial chemical or fossil hydrocarbon pesticides, herbicides or synthetic growth inducements such as fertilizers and hormones utilizing indoor aquaponics (hydroponics & aquaculture combined) methodologies.

ecoTECH has introduced ancillary operations such as self-sustaining industrial parks, complete with hydroponic greenhouses and aquaculture fish facilities to complement its bio-energy division. The Company's economies of scale are maximized because these ancillary operations will be operated by using the energy by products from the Company's CHP Power Station's output. ecoTECH's food production is an essential service that will provide hundreds of newly created jobs and an entirely new industry. ecoTECH's McBride facility will be capable of producing over \$50 million in food sales annually energized from its 5 MW power station. The Company projects that after achieving full commercial operations in 3 years, the facility will yield an EBIDTA of 40-43% of revenue. The McBride, BC facility will include a 24/7 Biomass fueled combined heat & power generating facility. The complex consists of over 22 acres of Aquaponic production facilities.

OUR PRODUCTS

Torrefied Wood Briquettes "Green-fuel" fills a 40 year niche as industries transition from coal-fired energy to more earth-friendly methods. Currently, most coal-fired power generators around the world do not have a readily available "green" fuel, and the cost of converting / retrofitting existing combustion systems is not practicable to most. To augment the fuel to meet mandated percentages of sustainable fuels content now demanded, many power generators have tried to utilize wood pellets and briquettes. However, most of the coal-fired power generators

pulverize coal in ball mills and spray the ground fuel into the combustion zones. When wood in briquette or pellet form is ground in a ball mill, it forms stubbornly stringy mats and fibers that clog the system, making it an unfeasible solution for long-term use. When wood is roasted, it becomes brittle at a certain temperature range and like a coffee bean; it can be shattered with a hammer into small crystalline shards. The fabricated nuggets from torrefaction look like coal, act like coal and burn like coal, except they have much greater heat energy by weight and are sustainably renewable, meeting the mandated criteria. Customers for “green-fuel” biofuels make up two potential groups: Direct end-users including current coal-fueled power companies, and commodities brokers. Torrefied wood briquettes are now being used worldwide as an alternative fuel to coal. The key property that makes torrefied biomass attractive for co-firing in existing coal-fired power stations is its superior grind-ability compared to untreated or fresh biomass. The U.S. Environmental Protection Agency (EPA) has endorsed wood pellet heat as one of the cleanest-burning, most renewable energy sources on Earth. Briquettes are extremely dense and are produced with a low humidity content (below 10%) that allows them to be burn at very high combustion efficiency. Their high density permits compacted storage and reasonable transportation cost over long distances.

Summary of Advantages

- No modifications to firing systems needed; no capital outlay required to burn the fuel.
 - No handling or storage modifications needed; can be stored in the coal piles.
 - Will not deteriorate in inclement weather. Hydrophobic; hygroscopy actually less than coal.
 - Even with old burners, it will produce lower NO_x and zero SO_x to lower emissions.
 - Higher energy content; emissions reduction exceed percentage of briquettes added.
 - Carbon Credits: each ton of ecoTECH briquettes that are consumed reduces the CO₂ output by 2.5 tons
- Depending on the buyer and the prevailing cap & trade spot at the time, this amounts to a rebate of at least \$75 per ton of briquettes used.

Key Investment Considerations:

ecoTECH’s projects are designed to fulfill corporate, investor and earth friendly requirements and we are deploying our various technologies, large manufacturing equipment, and abundant feed-stock resources to achieve these objectives through the following means:

Technology: During the past 30 years, the Company has developed and refined its proprietary thermal gasification technology to create clean-burning waste-to-energy cogeneration Power Stations which would provide optimal revenue performance, correct volumetric fuel flow systems and minimum environmental impact. This combined heat and power (CHP) technology produces electricity, which can be channelled to utilities and end-users via the Grid, and heat which can be used to fuel torrefied biomass briquette manufacturing facilities, allowing for a “green-fuel” offering and related revenue stream. Additionally, ecoTECH has acquired the licensing rights to adjunct technologies (hydroponic harvesting, aquaculture, cold storage, etc.) which, when requested, can be coupled with the power stations to provide cost-effective solutions for rural community needs.

Equipment: The Company’s technology has been developed and fine-tuned via initial prototypes created through private funding and tested in ecoTECH’s lab facilities in Langley, BC. ecoTECH is currently in discussions with external engineering firms for independent testing and feasibility studies. Commercial scale manufacturing equipment will be constructed upon obtaining additional capital funding through debt and equity financing. Third party technologies/applications identified for use by the Company have been tested and currently exist in commercial environments.

Bio-mass Resources: The Company is establishing itself in the supply chain marketplace by establishing long-term agreements for sources of woody biomass with land owners; tree farm license (“TFL”) holders; First Nations bands in British Columbia and Alberta, Canada; and Native Americans in Montana, U.S. Currently, contracts and/or letters of intent have been secured from two North American sources which account for multiple-year fiber supply in excess of 1.5 million tons biomass feedstock per year.

ecoTECH Outlook:

World-wide growth in the renewable energy industry is set to reach more than USD \$250 billion by the year 2017. In 2007, the biofuels market reached \$25.4 billion globally, 40 percent of which came from the U.S. Hence, there is approximately \$225 billion of market opportunity over the next seven years. Worldwide initiatives are pushing the energy sector towards renewable sources of energy and fuel. This industry is still in its infancy and is expected to enjoy a very long period of exponential growth before any market shakedown or consolidation will occur. In the U.S., it is projected that 250 gigawatt’s (GW) of new generating capacity will be required between 2009 and 2035; of this capacity, 37 percent will come from renewable energy sources. Non hydro-electric renewable generation will account for 41 percent of the growth in total electricity generation from 2008 to 2035. Power generated from



biomass, the most renewable energy source in the world, is expected to grow from 0.9 percent in 2008 to 5.5 percent in 2035. A large portion of this increase comes from increased co-firing – a process in which biomass is mixed with coal in coal-firing plants. In “An Energy Policy for Europe”, published by the Commission of the European Communities, it is said that “for 2050 and beyond, the switch to low carbon in the European energy system should be completed, with an overall European energy mix that could include large shares for renewables, sustainable coal and gas”. ecoTECH’s CHP Bio-Energy division is poised to take advantage of the growing demand and infrastructure for renewable energy sources. In the USA, a Renewable Energy Standard (“RES”) is requiring large utilities in each state to produce an increasing percentage of their electricity from renewable sources. Qualifying renewable sources are wind, solar, geothermal, biomass, marine and hydrokinetic energy, biogas and biofuels derived exclusively from eligible biomass, landfill gas, wastewater-treatment gas, coal-mine methane, hydropower projects built after 1992, and waste-to-energy projects. With proven technology, project development and management, ecoTECH is positioned to grow exponentially to meet this unprecedented market opportunity. The current coal power industry remains the top power producer in the world due to the abundance of supply and low cost of production. As environmental concerns regarding emissions from coal burning power plants move towards more stringent requirements, the coal industry faces challenges in adapting their operations to meet these requirements. Coal is under particular scrutiny as power plants utilizing this type of fuel emit twice as much CO₂ than gas, for example, threatening to worsen climate change. At the same time, coal is an abundant and reliable source of energy for many countries and currently represents one-third of total electricity production in Europe (Poland is 92% dependent on coal for its electricity and Germany around 50%, according to the Commission). In the meantime coal-fueled power producers are turning to “green-fuel” biofuel to meet their targeted emissions reduction. The EU and other countries now legally mandate the use of biomass sources of energy for domestic and industrial use. Wood pellet / briquette biomass (green-fuel) is the most accepted and feasible source of this energy and demand for wood briquettes in Europe is forecast to increase up to ten-fold from the current 7.5 million tons to as much as 75 million tons by 2020 - a current dollar market increase from \$1.725 billion to \$17.25 billion. ecoTECH is strategically positioned to take advantage of this growing market niche with substantial long term wood fiber biomass supply MOUs and contracts in place as well as more being developed. Global demand for electric power is expected to grow at an average rate of approximately 3% per year, which means that the current demand will double during the next 20 years to approximately 30 trillion Megawatts, according to the EIA.

Financial Projections:

Five Plant Scenario

ecoTECH intends to break ground during 2012 and have its first Power Station and torrefied briquette production facility completed at full capacity by 2014, with four (4) more similar plants completed by 2016. Combined, these facilities could produce in excess of 1.5 million Megawatts electricity and 1 million tons green-fuel annually. The estimated capital requirements, assumptions used, and 6 year financial projections are summarized below:

Capital Requirements: Five(5) combined plants, each including one 36MW Power Station and one 200,000 ton torrefied briquette plant.

P&L Projection (5 Combined Plants fully operating - 2016)

Revenue - Electricity		\$ 214,555,000	
Revenue - Briquettes		<u>178,956,000</u>	
Gross Revenue		393,511,000	
Cost of Goods:	Raw mat'l	128,822,000	
	MFG OH	<u>20,388,000</u>	
Gross Profit		244,301,000	62%
Operating Expenses		<u>44,208,000</u>	11%
EBITDA		200,093,000	51%
EBIT		172,376,000	44%
EBT		129,442,000	33%
Net Income*		<u>\$ 84,137,000</u>	21%

*assumes 35% tax rate



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