



"Thailand has an abundance of great talents including skilled microbiologists. It has a very good reputation of the foods it produces, which results in positive perceptions when we create products to export."

Mr. Saumil Shah, CEO and Founder

EnerGaia Co., Ltd.

Focused on providing a clean, healthy and sustainable food source

EnerGaia Co., Ltd. was incorporated in April, 2009, as a company focused on providing a clean, healthy and sustainable food source of high nutritional value while using sustainable farming practices and helping to reduce harmful greenhouse gasses. Their mission is to partner with land, building and factory owners, and smallholder farmers to utilize excess space for the cultivation of spirulina and to increase awareness of and accessibility to spirulina through community programs. Their process can also be used to capture waste CO² as an energy source for algal growth.



They specialize in developing advanced bioreactor technology for spirulina farming, providing engineering and scientific consultation

for spirulina farms, as well as producing fresh spirulina and other innovative spirulina-based products. Clients can purchase their bioreactor systems to grow spirulina, hire them to assist in setting up and managing their bioreactor systems including providing microbiological consultation for their farms, or purchase fresh spirulina or a wide range of spirulina-based products such as energy balls and pasta.

EnerGaia has developed a proprietary algae production system that balances the costs of system installation, maintenance, and operation with algal growth rate making them one of the most efficient producers of spirulina in the world. More traditionally, production of spirulina on a commercial scale has occurred in large, shallow, open-air ponds, which is limited to producing algae in only the uppermost 30 cm due to insufficient sunlight at greater depths. Such open systems are difficult to keep clean and to protect from wind-blown and other sources of contamination. Therefore, EnerGaia has redesigned how spirulina is produced and developed using their own proprietary algae production bioreactor design, creating a closed system that maximizes production using minimal

resources, reduces the potential for contamination, and allows them to produce spirulina virtually anywhere there is sunlight. By using special clear plastic bags supported by wire mesh frames, their system provides numerous advantages, including limited contamination risk, better quality control, substantially reduced evaporation loss and more efficient water usage, and allows precise production monitoring.



Additionally, it provides a significant increase in production per unit of land area, due to the vertical nature of the 90 cm tubes, which allow sunlight to penetrate from all sides, and it can be rooftop mounted to utilize space that would otherwise go to waste, while producing up to 2 kilograms of protein per square meter per year. It also includes an air-filtration to remove airborne contaminants, and can be used to utilize CO² emissions from industrial sites through their forced air system, thereby reducing the carbon footprint of their industry partners. EnerGaia has

the ultimate goal of being able to compete with meat for protein on a price per kilogram basis.

Why Thailand

According to Mr. Saumil Shah, founder and CEO of EnerGaia Co., Ltd, he originally desired to set up his business here because of his love of Thailand and Thai culture. At the time, Thailand imported spirulina from China for the production of animal feed. Therefore, as long as the company could provide and sell it at a reasonable cost, it should have a strong initial demand to support their product. “The environment in Thailand is highly suitable for culturing Spirulina. The available sunlight and warm tropical temperatures promote the rapid growth of the algae”, he said. The company's production has been developed to achieve a higher standard than the one used for animal feed, reaching the level required for human consumption, which has allowed the company to expand into higher value-added markets. Saumil explained that spirulina production commands significantly different prices depending on whether it is produced for animal feed or incorporated into human food products. The spirulina market worldwide has grown steadily by about 6 - 10% per year, driven by consumers who continue to seek alternative protein sources in place of meat.

Attractive BOI Incentives

The Thailand Board of Investment (BOI) offers a wide range of tax and non-tax incentives for projects that meet national development objectives. Tax-based incentives include an exemption or reduction of import duties on machinery and raw materials, as well as corporate income tax exemptions of up to eight years. Non-tax incentives include permission to bring in

expatriates, own land and take or remit foreign currency abroad.

Recognizing the importance of the agricultural and food sectors, tax incentives are granted to approved projects in numerous activities, such as the manufacture of medical food and food supplements; adoption of advanced technology such as fruit ripeness sensors, radio frequency pest control, or nuclear magnetic resonance in grading, packaging and storage of plants, vegetables or fruits; adoption of smart farming systems utilizing drones, sensors or greenhouses; investment in plant factories; and manufacture of animal feeds which comply with international food safety standards.

Additional information about specific activities relating to Advanced Agriculture and Biotechnology Enterprises can be found by clicking [here](#) or contacting the BOI's Investment Promotion Division 1.

Source: 1. "[EnerGaia Co., Ltd.](#)"/BOI e-Journal/Issue 4 (2564) :/18 – 23.

2. "[Company Interview: EnerGaia.](#)"/Thailand Investment Review/Vol 31 (Mar 2021) :/18 – 20