

# **ECOBIO THERM LTD,**

## **Biomass Pellet Manufacturing Business, Bulgaria**



## **Summary Information for Potential Investors**

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## 1. Introduction.

Ecobiotherm Ltd are developing a biomass pellet manufacturing business that will be located in the Trastenik region of northern Bulgaria. The plant will initially consist of one manufacturing stream producing approximately 3t/hr and 26,000 tonnes per year of finished products, working a three shift system. Pre-feasibility work has been carried out and a summary of the work done to date is included in an information package.

Ecobiotherm are working together with Bulgarian Renewable Energy Company (BREC) to introduce an investor for the business who will provide the additional equity needed, and to obtain the balance of funding from local bank loans in order to implement the project.

## 2. Summary Project Description.

It is planned to use part of the very large quantity of wheat straw that is available in the region as feed-stock. There are 69,000 hectares under grain cultivation producing some 282,000 tonnes of grain per year and around 2 tonnes per hectare of waste straw. The present plan will use around 50% of the straw available locally, and much more is available from the wider area. Five year contracts for the supply of straw have been negotiated by Ecobiotherm. Straw pellets have a higher CV than wood, but are less common.

An equipment specification has been agreed with Kahl of Germany who have installed a similar plant in Lithuania. Although there are many other pelleting plants in Europe, straw pelleting is relatively unusual and poses some technical challenges. Kahl was chosen because of their experience in such production. See [http://www.akahl.de/index.php?set\\_lang=en](http://www.akahl.de/index.php?set_lang=en) The plant will first shred the straw and then compress it into pellets after drying. The intended plant will have a maximum capacity of 4 tonne/hour but is planned to operate at an average of 3t/hr, working a three shift system, and producing about 26,000t/yr of finished product. 35,000t/yr of straw will be used as feedstock, and part of the material will be used for plant heating. There is adequate feed-stock in the area to expand later if agreed.

A site for the processing plant has been chosen, 20km south west of Rouse, on the main road and very convenient for transportation. Other land is also identified for additional straw storage facilities. We have also selected a design company to design the plant, subject to agreement with investors.

Straw is harvested in June and we plan to have a simple building in place by the end of June 2008 to store the straw and before the September rains.

A feasibility study including a cash flow statement has been drafted and is available as part of our information package for the project. Pellet selling prices in European markets are around €140/t or above for bulk sales. The forecast project returns are excellent, and payback can be achieved in less than three years.

Total capital costs are forecast to be €3.4m including working capital, and 75% of this requirement will be obtained as loans from Bulgarian banks leaving an equity requirement of approximately €850,000.

Full details are shown in the feasibility study

### **3. Information Package.**

The project information pack contains;

- A description of the project and of the work done to date.
- A feasibility study prepared for this project, including the financial analysis
- A preliminary equipment and site layout drawing,
- A statement prepared by a Bulgarian lawyer showing the status of the land and permitting process,
- A diagram showing the equipment and manufacturing sequence,
- An equipment list showing the equipment options that have been considered together with forecast capital costs.

### **4. Investment Proposal**

We are now open to work with an investor who will provide the equity needed to implement the project as well as contributing suitable expertise to the joint venture.

The present shareholders in Ecobiotherm intend to remain as fully active partners alongside the equity investor and to manage the day to day operation of the plant and related business activities.

We are willing to consider investors who will provide the balance of equity needed before drawing on bank lending, and who have experience of similar biomass business in Europe. Part of that equity will be used to buy the land and to install the first straw storage building.

Our initial thinking is that the investor will become a 50% shareholder in the business, and will contribute funds as a combination of shareholder equity and shareholder loans.

We will particularly welcome participation from companies that are presently active in the pellet markets in western Europe, and who can contribute expert knowledge in product shipping and marketing. We are not seeking to sell the business, but we intend to form a joint venture with suitable partners such that both partners fully participate, and derive maximum long term benefit from the business.