



Section Sciences et Ingénierie de l'environnement Design Project 2019 (semestre de printemps)

Proposition n°27

Evaluation of Heat Sources for the Production of Microalgae

Partenaire externe

Hossein Madi

h.madi@enoilbioenergies.ch

Téléphone 0788825162

Enoil Bioenergies SA

Taille de l'entreprise (nbre de collaborateurs) : 10

Quai Gustave-Ador 54, CH-1207 Geneva

www.enoilbioenergies.ch

Encadrant EPFL

EPFL ENAC IIE GR-LUD

Prof. Christian Ludwig

CH B2 398 – Station 6

1015 Lausanne

Email: christian.ludwig@epfl.ch

Tél : 056 310 26 96

Descriptif du projet

Enoil Bioenergies SA is a Swiss biotechnology and renewable energy company, headquartered in Geneva. The main areas of business are the production of renewable energy, development of biotechnology specifically on raw materials for the renewable energy, food, pharma and cosmetics industries.

Enoil Bioenergies is developing solar greenhouses for the farming of microalgae, spirulina, Chlorella and Astaxantina. An important factor in growth of microalgae is temperature. Maintaining photobioreactors or the production hall at the desired temperature (around 30 °C), requires a heating source. For our new production line of Spirulina), it is important to evaluate all the possible heating sources with least impact on the environment.

Objectif et buts

Considering the location (canton VD, VS) of production line, what heating sources are existing?

- Biogas from waste water treatment plant or farm waste
- Geothermal
- Wind
- Solar panels (geometry of the building will be provided)



What could be the optimal choice? Considering environmental impact, cost and availability.

Descriptif tâches

(Décrire 3 à 4 étapes de la démarche de projet en spécifiant s'il y a une partie expérimentale (terrain, mesures, prototypage))

- Collect necessary information which are needed to tackle the questions
- Assess the different options and pathways according to the goals of ENOIL
BIOENERGIES