

Environmental Engineering and Science Department Design Project 2013 (Spring semester)

Proposal n°28

Optimal allocation of Green Industrial Waste

External supervisor

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Project description

The company Sofinol (Nestlé Group), producing specialty oils for food additives applications, has the following waste stream to get an appropriate and most convenient disposal of

- sunflower oil from pipeline cleaning
- soapstock from crude oils neutralization
- bleaching earth from oil bleaching

The candidate will analyze alternative options and draft a final report with the investigation findings, highlighting pros and cons of every alternative

Goals

To find potential optimal applications for the 3 streams within the biofuel/bioenergy sectors (biodiesel production, biogas, bioliquid) and also see alternatives like animal feed.

The analysis needs to take into consideration environmental/legal aspects (waste legislation, swiss and European), economical aspects (value added to the product)

Tasks description

Waste identification, process description and correct codification

Analysis of swiss legislation regarding waste management

Analysis of European and international legislation regarding waste management

Analysis of legislation regarding waste transport

Analysis of the biogas sector in Switzerland

Analysis of the biodiesel sector in Switzerland and other EU countries

Analysis of the bioenergy sector in Switzerland and other EU countries

Comparison of waste disposal solutions for the 3 waste streams considering the following aspects

-economical

-environmental

-compliance (legal)

Miscellaneous

MBP Trading will assist the candidates and supply specific technical support and give financial support for laboratory analysis and coverage of expenses (phone calls, eventual train tickets, etc)