Objectives and methods

- Proposing potential applications for three waste streams of a factory processing edible oils
  - Detailed composition of each waste
  - Review of the literature
- Analyzing the legal compliance and the environmental aspects of these applications
  - Examination of the Swiss waste legislation
  - Material and energy fluxes analyses
- Finding an environmentally optimal valorization alternative for each of the waste streams
  - Multi-criteria analyses

### Conclusions

- All the waste streams have potential new uses that are both legally compliant and environmentally acceptable, in particular in the bioenergy sector
- Embodied energy (transformation, transportation, etc.) must be considered in the environmental assessment

### Recommended solutions

- Spent bleaching earth: pressure extraction of oils (the mineral fraction is landfilled)
- Soapstock: anaerobic digestion
- Waste sunflower oil: burning for energy

### Full report:

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Design Project – SIE 2013

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