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AlgaePARC: present results and future plans

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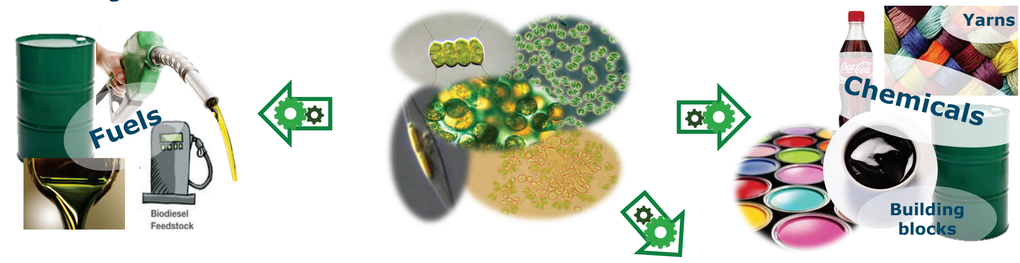
Objective & Mission

Bridging the gap towards commercialisation of commodity products from microalgae



Challenges

- Reduction of production costs
- Development of production chains
- Market development

Results

- ✓ Comparison of different production systems
  - Highest productivity in vertical systems
- ✓ Photosynthetic efficiency on sunlight of 3%
  - Maximum Obtained 4.1%
- ✓ Developed improved reactor concept/process strategy
  - 50% cost reduction
  - 65% reduction energy input
  - Production costs < 1 €/kg feasible
- ✓ Background information to design a large-scale production facility

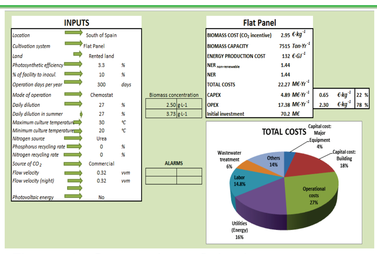


Figure 1: Screenshot of the input parameters and results of production costs of algal biomass in a flat panel photobioreactor at a scale of 100 ha in the south of Spain

Techno-economics

The research program is driven by a techno-economic analysis.

2010 : Cost of biomass production 6 €/kg DW if performed at a 100 ha scale.

2015 : costs reduction with 50%; 3 €/kg DW

Future: Sensitivity analysis: costs 0.5 €/kg DW

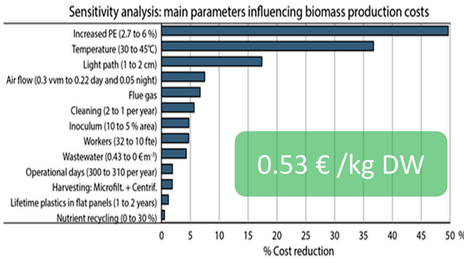


Figure 2: Sensitivity analysis on biomass production (cultivation and harvesting) using as base case flat panels in south of Spain.

Future of AlgaePARC

We are well on our way to make the whole microalgae process chain economically competitive.

- Presently: already business opportunities in the food, feed and cosmetic industry.
- Future : commercial production of commodity products when costs are further decreased

With microalgae we are building a sustainable biobased future.

→ This is an invitation to join AlgaePARC.

Let's build it together!

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