

Future European League 4 Microalgal Energy

General overview

FUEL₄ME: Future European League ₄ Microalgal Energy

Main goal: to demonstrate a sustainable, scalable process for production of biofuels from microalgae and to valorize the by-products by 2017.

The project has a budget of 5.4 M€ from which 4M€ are supported by the European Commission through the 7th Framework Program under Grant Agreement No. 308983.

- Duration: 48 months, from January 2013 to December 2016
- Coordinator: Wageningen UR - Food & Biobased Research
- Website: <http://fuel4me.eu/>

Workplan

WP1:
Fundamental
research and
enabling
technologies

Partners: **WU**,
WUR-PRI, BGU.

WP2: Translation
to outdoors and
production

Partners: **F&M**, WUR-
FBR, BGU, BIT.

WP3: Downstream processing
and conversion of oils to
biofuel

Partners: **FEYECON**, EVODOS,
CELLULAC, NOIL, WUR-FBR.

WP4: Demonstration at pilot scale

Partners: **FEYECON**, BIT, EVODOS, CELLULAC, NOIL.

WP5: Sustainability assessment of integrated process

Partners: **JOANNEUM**, WUR, WU, BGU, F&M, BIT, EVODOS, CELLULAC, FEYECON, NOIL.

WP6: Dissemination and exploitation Partners: **IDC**, all.

WP7: Project Management Partners: **WUR-FBR**.

Optimization of Upstream processes

One step continuous biomass production



Optimization of Downstream processes

Continuous conversion process

Harvesting Optimization



Re-use of the effluent water

Cell Disruption



Primary Extraction

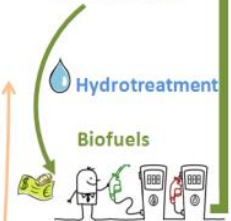


Remaining Cell Components

Characterization of remaining biomass and fermentation of carbohydrates into H₂

Hydrotreatment of low value lipids into biofuel

Low value lipids



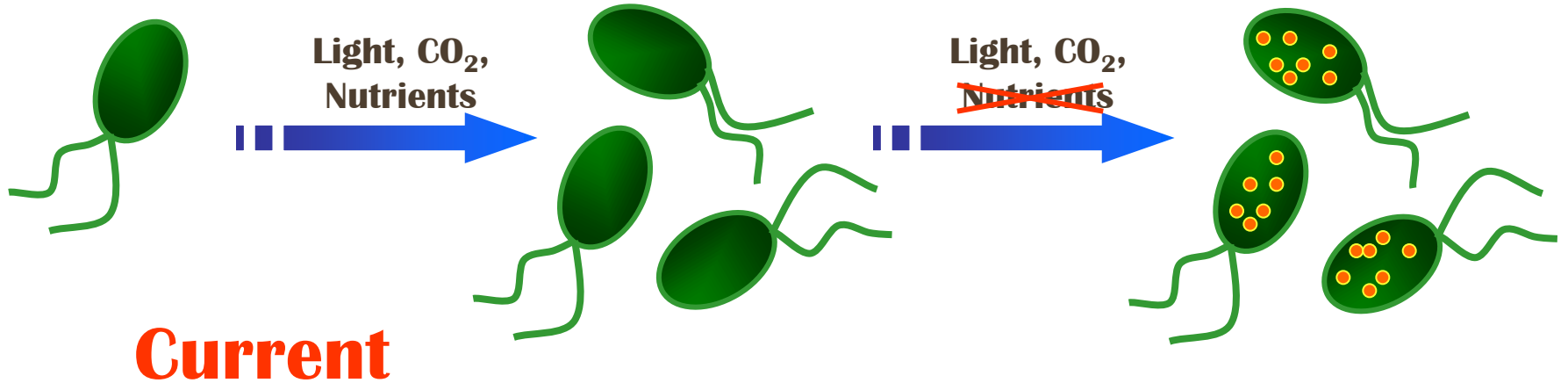
Conversion of High Value lipids into Food/Feed ingredients

High value lipids (e.g. PUFAs)

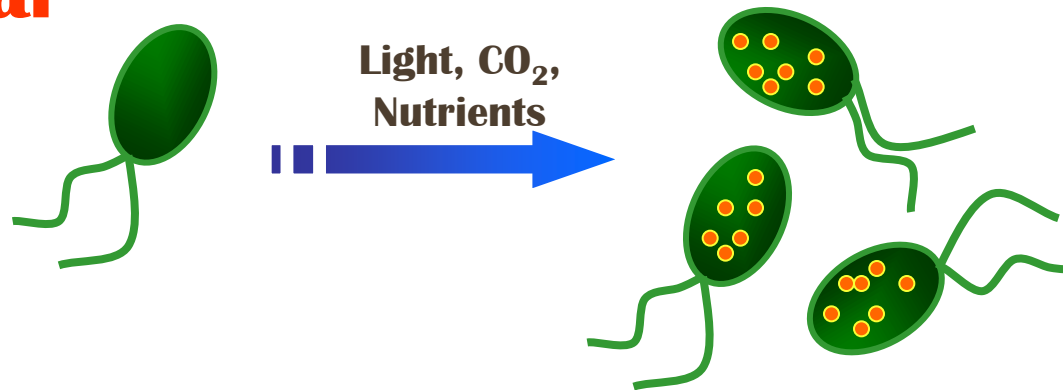
Conversion



Lipid production

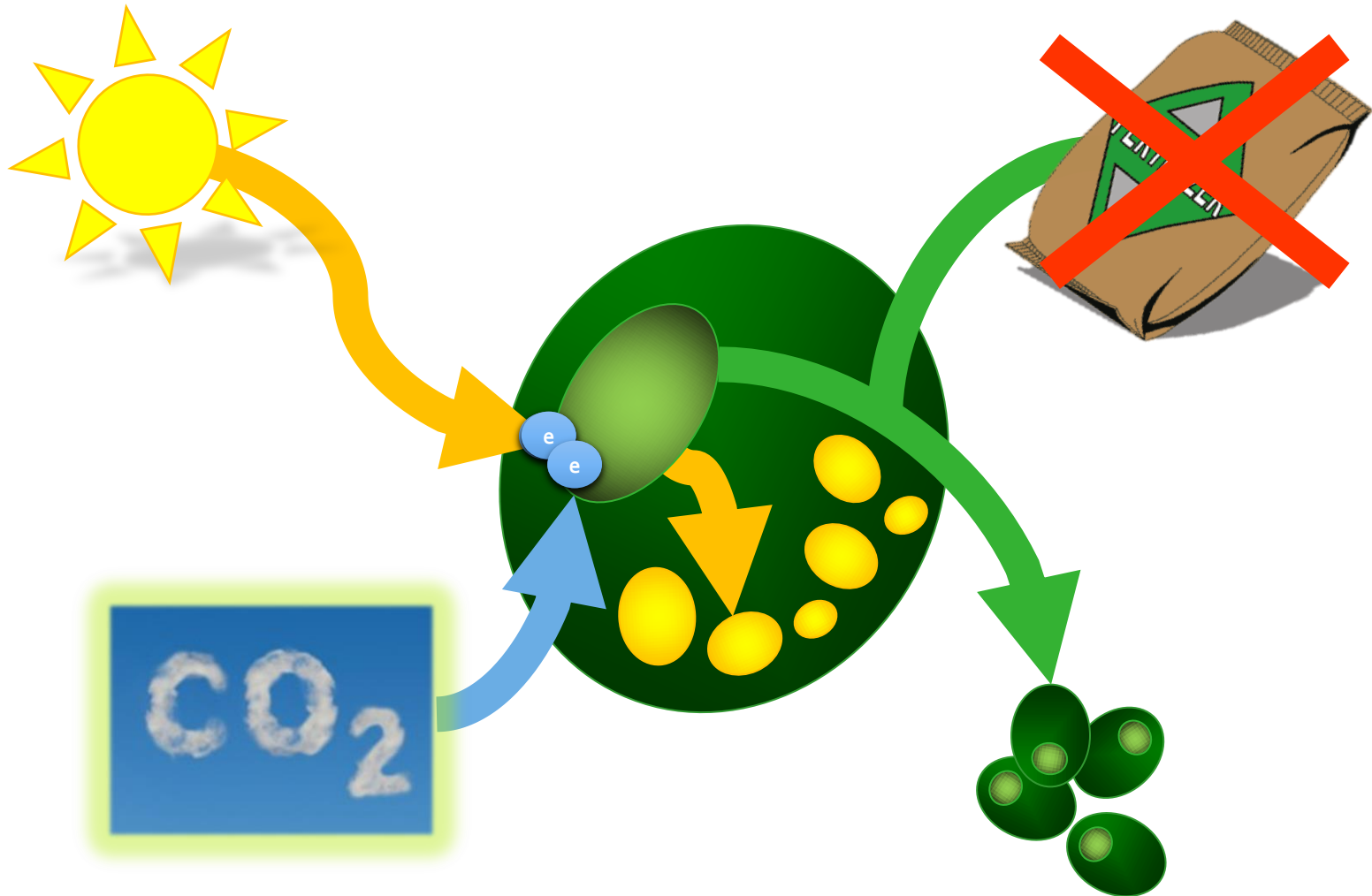


Goal



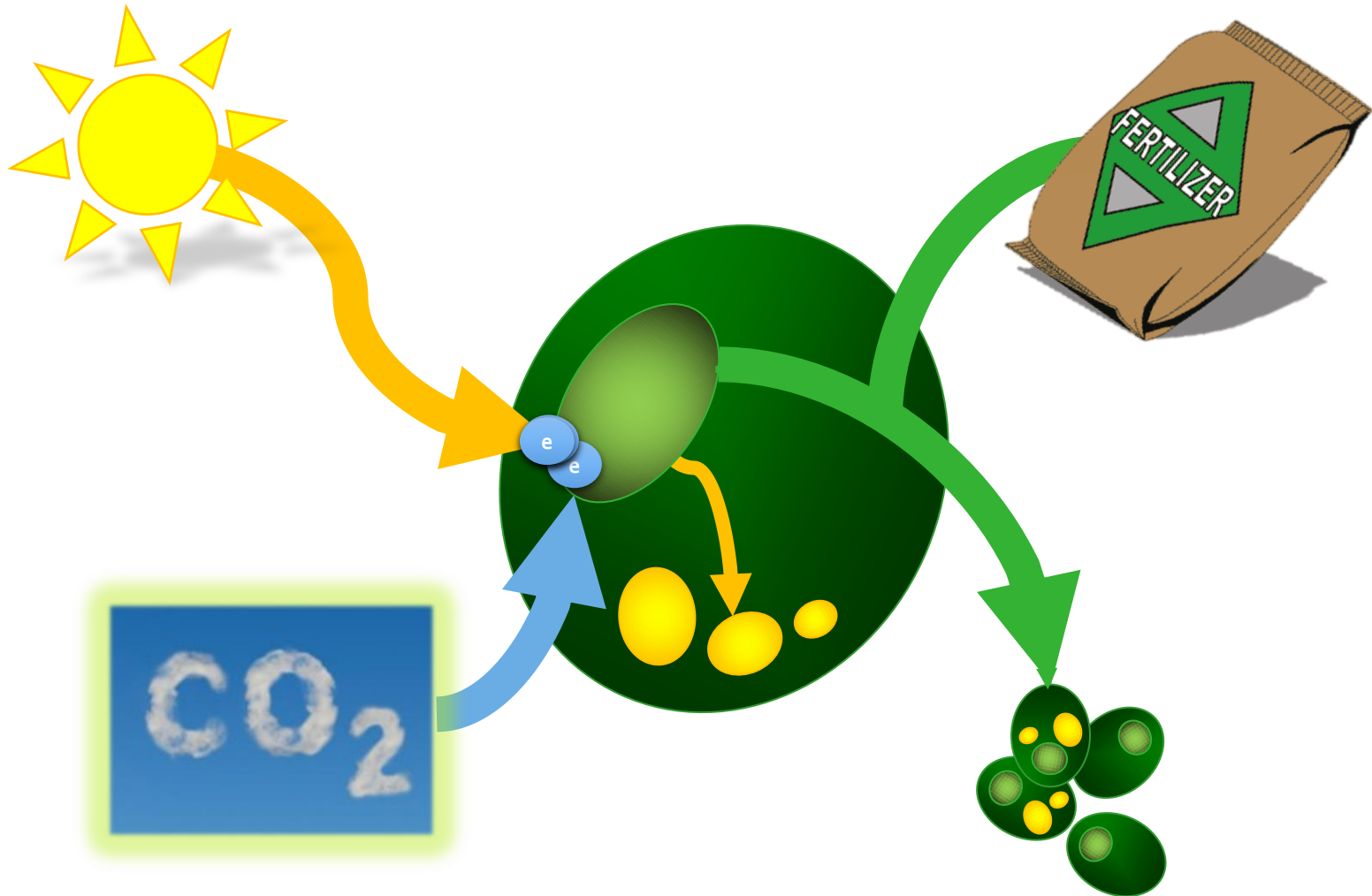
Hypothesis

TAG act as e^- sink



A new way of thinking

Growth and lipid production?



Thanks for your attention!

