



**SaltGae**  
algae to treat saline  
wastewater

## Saltgae Workshop Archimede Ricerche demonstration site

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Ljubliana (Slovenia)

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## Archimede Ricerche microalgae





## The APG group



The APG group was developed during the last 10 year by Augusto Parodi, President of the A&A Fratelli Parodi Spa.

APG is born to maximise the synergy between the different companies inside the group in order to guide the toward the same goal: green chemistry

- ✓ **Chemical Division** – Production, refining and R&D on different types of oils for industrial use
- ✓ **Advanced Biofuel Division** – Production of biodiesel of third generation from agricultural wastes and industrial byproducts
- ✓ **Life Science Division** – raw materials for cosmetics, development and production of microalgae for a wide range of applications from nutrition to personal care.



## The companies

### Vegetables oil refineries

Campomorone (GE) – ITALY  
Camporosso (IM) – ITALY

### Production and formulation of cosmetic products

Campomorone (GE) – ITALY  
Camporosso (IM) – ITALY  
Frejus – FRANCE

### Waste oil treatment plants

Campomorone (GE) – ITALY

### Biodiesel production

Aprilia (LT) – ITALY  
Castenedolo (BS) – ITALY

### Natural resources production plants

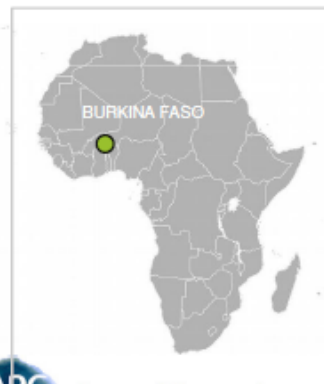
Camporosso (IM) – ITALY  
Dominican Republic, Burkina Faso

### R&D

Campomorone (GE) – ITALY  
Camporosso (IM) – ITALY  
Frejus – FRANCE



Archimede Ricerche S.r.l.



Group of Companies

## Camporosso production plant



Microalgahe  
Production

Renewable energy  
Power plant

Edible vegetable  
oil bio refinery



Purified  
CO<sub>2</sub>

Electrical  
Energy  
source

Termical  
Energy



**Sustainable plant**

a member of  Group of Companies

- **Camporosso demo**
- Pilot site at demo scale (0,5 ha) aiming to medium-low COD and low salinity dairy water treatment with cost effective nutrient removal by multistage process.
- System design engineering: pretreatment by rotoscreening and DAF by BBA, thin layer RWP with special paddle wheels, covered under greenhouse, fitted with cooling towers
- Algae three step photosynthetic field : 2x8000 GWP<sup>®</sup> pbrs for inoculum, 530 m<sup>2</sup> growth RWP, 1280 m<sup>2</sup> starvation RWP.
- Standard (Archimede technology, UF and centrifuge combined high efficiency process) harvesting and spray drying

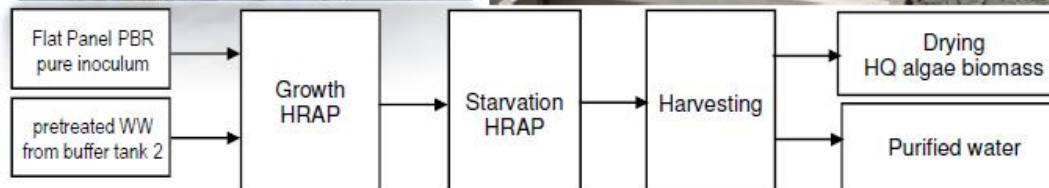
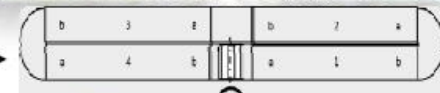
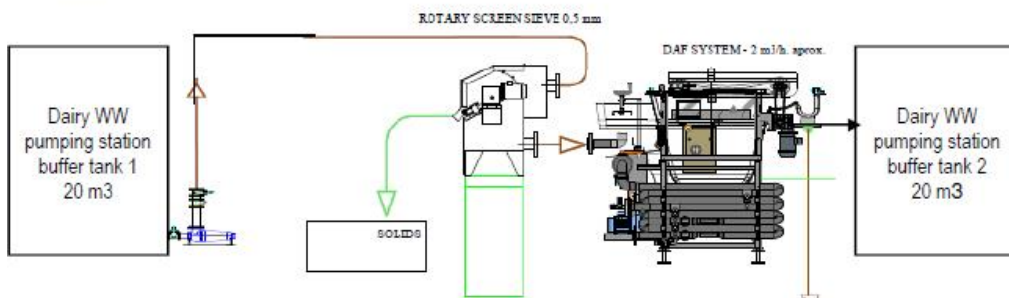


## Algae culture production processes (ARCHIMEDE)

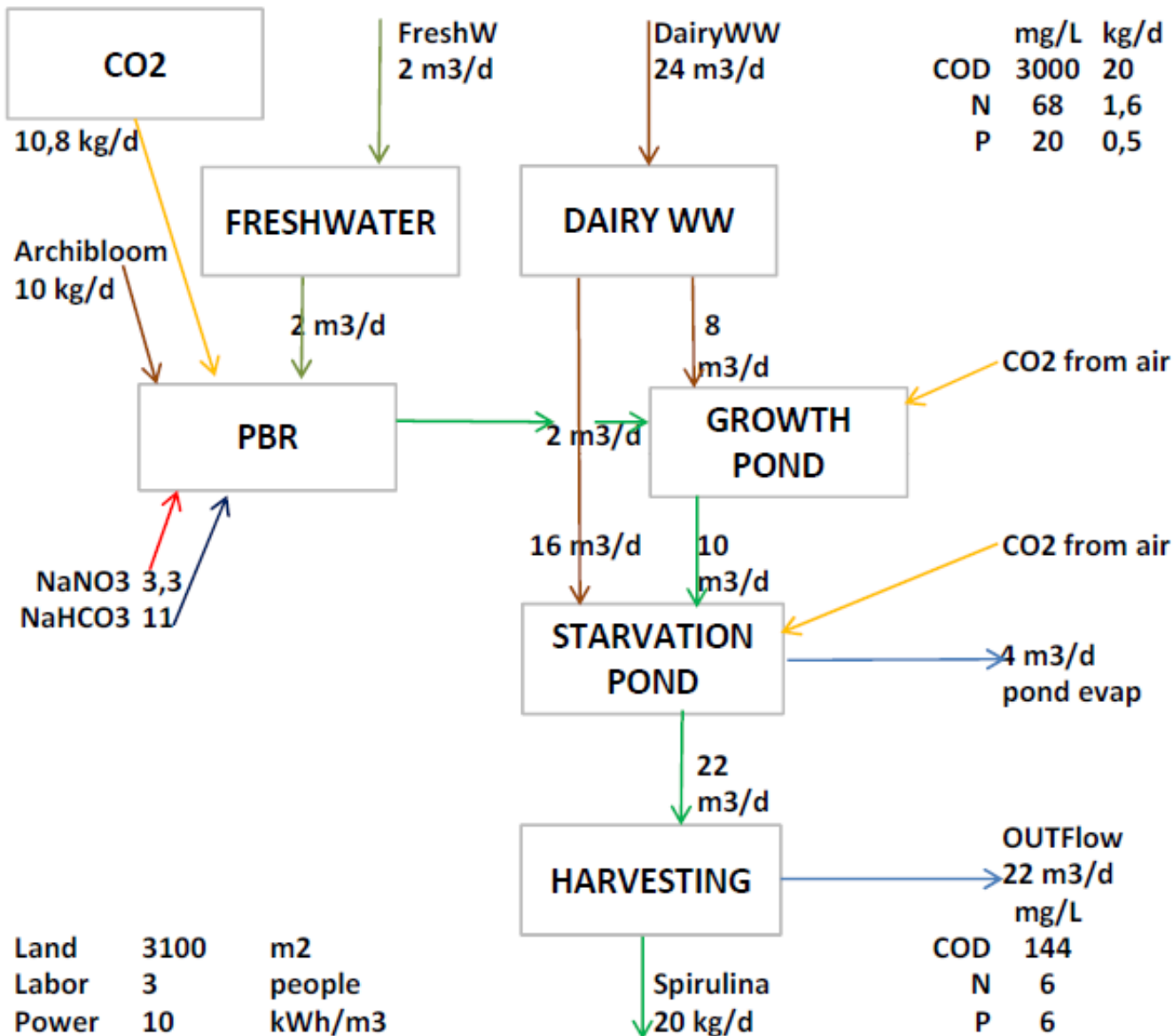
Pilot site at demo scale (0,5 ha) aiming to medium-low COD and low salinity dairy water treatment with cost effective nutrient removal by multistage process.

Saltgae project

Archimede process chart



# How to turn wastewater from a liability to a useful resource







## Thank you for listening !

