

## VISION

Technology, science and environmental sustainability: the key elements in our challenge to improve the well-being of people and the world.

## PROJECT AND INNOVATION

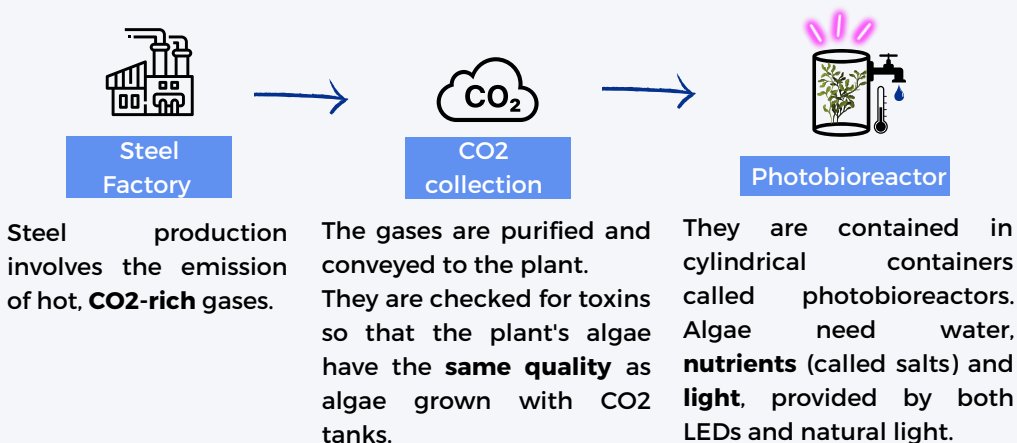
The goal of our project is to create a natural product, phycocyanin, through a circular economy process, using CO<sub>2</sub> waste from a steel plant, also helping to reduce emissions (-1.44 tons/year at current size).

Due to its beneficial properties and enormous potential, phycocyanin is a means to help the environment and improve people's health by reducing poisoning from hazardous chemicals produced by the cosmetics industry and the pollution that textile dyes produce by ending up in the oceans.

Our project will generate new job opportunities in various fields (biotechnology, electrical engineering and computer science) and enhance technological research in algae production and extraction.

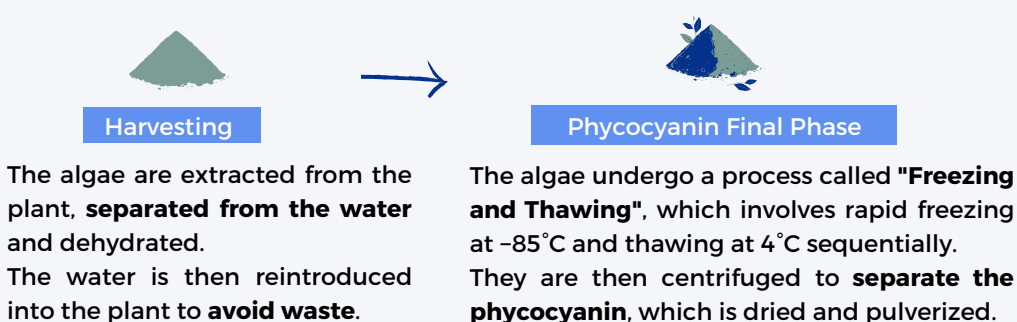
**INNOVALGAE** can change the industrial pollution we have seen until today, and transform it into something useful.

## PROCESS PHASE 1



## PROCESS PHASE 2

### FROM SPIRULINA TO PHYCOCYANIN: THE EXTRACTION



## IN THE FUTURE

The goal is to move to a **more sustainable** method that is more suitable for the **industrial stage**; the best method will be researched through **literature and laboratory research**.

## INNOVALGAE

Since March 2022, we have been partnering with Danieli Group to create a new product from the existing plant.

## DANIELI GROUP

Danieli Group, together with the company ABS, created a pilot plant two years ago for research purposes, to reduce its CO<sub>2</sub> emissions by using spirulina.

## PROBLEMS



## PARTNERS



## MARKET LAUNCH

June 2022 – January 2023

## KEY ACTIVITIES:

- Economic activities: Market analysis, strategy, financing research
- Legal activities: Incorporation of the company, quality certification
- Industrial activities: Plant start-up Partnership with companies and research laboratories
- Distribution and sales

## INDUSTRIAL PHASE

2023 – 2026

## KEY ACTIVITIES:

- Economic activities: Expanding customer base, seeking financing
- Scientific-technological activities: Improving extraction techniques, plant automation, improving product quality
- Industrial activities: Plant expansion
- HR activities: New job opportunities

## Weaknesses

- Technology not fully developed
- Need for more scientific and managerial skills
- The product is not on the market
- High investment for industrial scale
- Unincorporated company
- High product costs
- Lack of quality certifications

## Threats

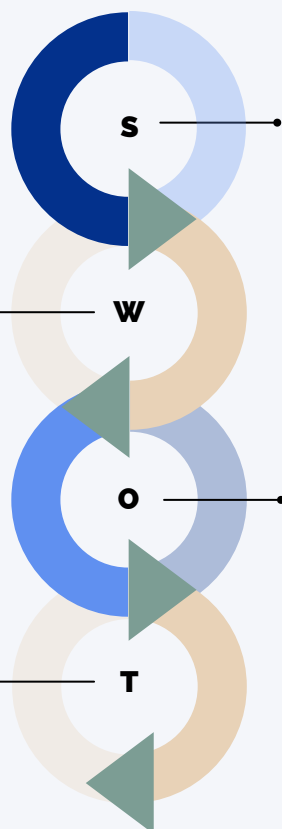
- Entry of competing companies
- Potential substitute products
- Regulations restricting biotechnologies
- Block production partners
- Industrial origin of the product

## Strengths

- Product quality
- Scalability
- Partnership
- Innovative technology
- Environmental impact
- Social impact
- A young team
- Pilot plant
- Product sample

## Opportunities

- New extraction methods
- Market growth
- Limited competition
- Growth in consumer interest
- European funds and financing
- Regulations against environmental pollution



## MARKET TREND

## PHYCOCYANIN MARKET

CAGR 7.6%, worth \$ 250 million in 2027

## GREEN COSMETICS MARKET

Value of 54.5 billion in 2027 + Increased consumer interest and attention to environmental issues and natural products with health benefits.

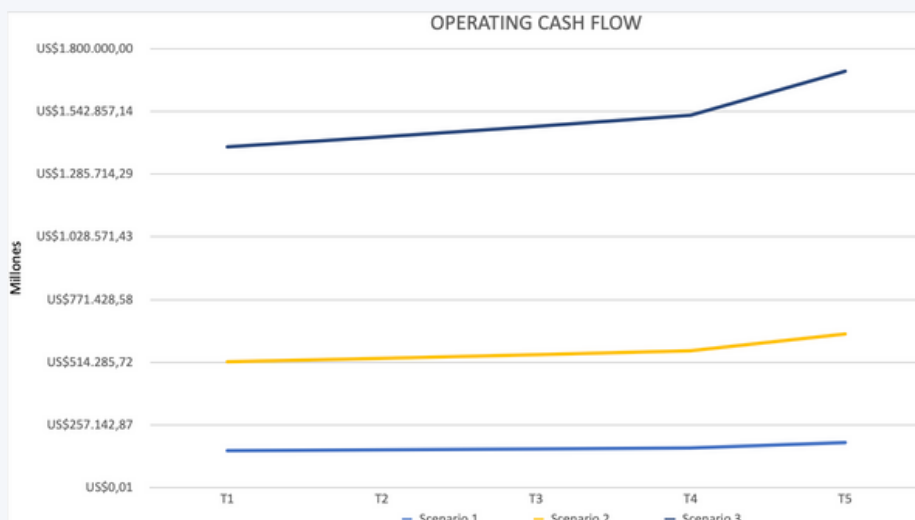
## TEXTILE MARKET

Interest from companies and consumers in the use of natural dyes that improve the environmental impact of production

## SOURCES

- Bioresource Technology > Phycocyanin production
- Cosmetics > Spirulina for skin care: a bright blue future
- Green Consumer Behavior in the Cosmetics Market by Nora Amberg and Csaba Fogarassy

## OPERATING CASH FLOW



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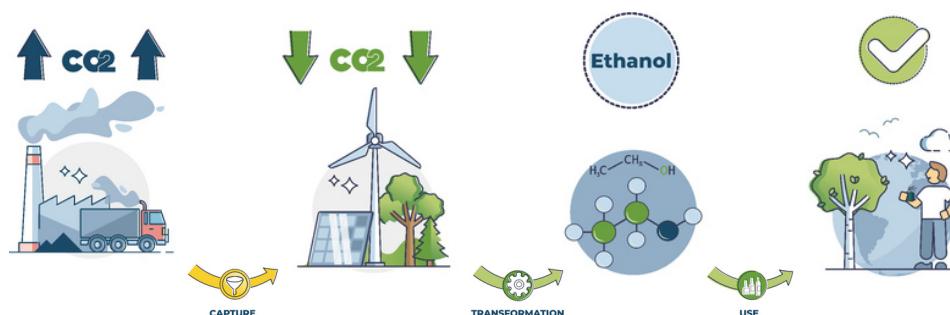
Operating cash flow trends, over 5 years, in relation to the three different scenarios representing different microalgae plant sizes.

## PROBLEM - VALIDATED ✓

- 1 Humans dumped 36.3 billion tonnes CO<sub>2</sub> into the atmosphere in 2021.
- 2 EU aims to reduce the industrial carbon emissions by forcing companies to reduce their carbon footprint.
- 3 95% of ethanol comes from agriculture. This causes biodiversity loss, soil erosion and atmospheric pollution.

## SOLUTION - VALIDATED ✓

- 1 Our technology will reduce 1.45kg/CO<sub>2</sub> eq for each kg of ethanol produced (Life Cycle Assessment).
- 2 We sell certified sustainability through blockchain with no need for companies to modify their plants.
- 3 We disrupt traditional production. CO2NVERT makes it sustainable and improves the quality.



## INNOVATIVE TECHNOLOGY AND PROCESS

We aim to patent the catalyst and the process of carbon dioxide conversion powered by renewable electricity. Co2nvert splits water into oxygen and hydrogen. **Hydrogen is then combined with CO<sub>2</sub> to produce ethanol.** CO<sub>2</sub> can be captured directly from the atmosphere by means of absorption materials or purchased from capture plants.

We have been testing our catalysts in Sweden from January 2022, after a literature review of 5 months. **We have validated two different catalysts achieving the Technology Readiness Level 4 with an efficiency of 20%.**

## VALUE PROPOSITION

We give companies the opportunity to create an alcohol-based product that is **different, innovative and sustainable**; **enter new markets**, improve **corporate social responsibility and communication** to customers and stakeholders.

## BENCHMARKING ANALYSIS

ETHANOL PRODUCERS	Co2nvert	Air Company	Lanzatech	Sacchetto SPA
Difference	FIRST IN EUROPE	ENTRY BARRIER EU MARKET	DIFFERENT PROCESS	UNSUSTAINABLE PROCESS

There is a gap in the European market. We will be the **first producers of ethanol from CO<sub>2</sub> at an industrial level.**

## SDGs

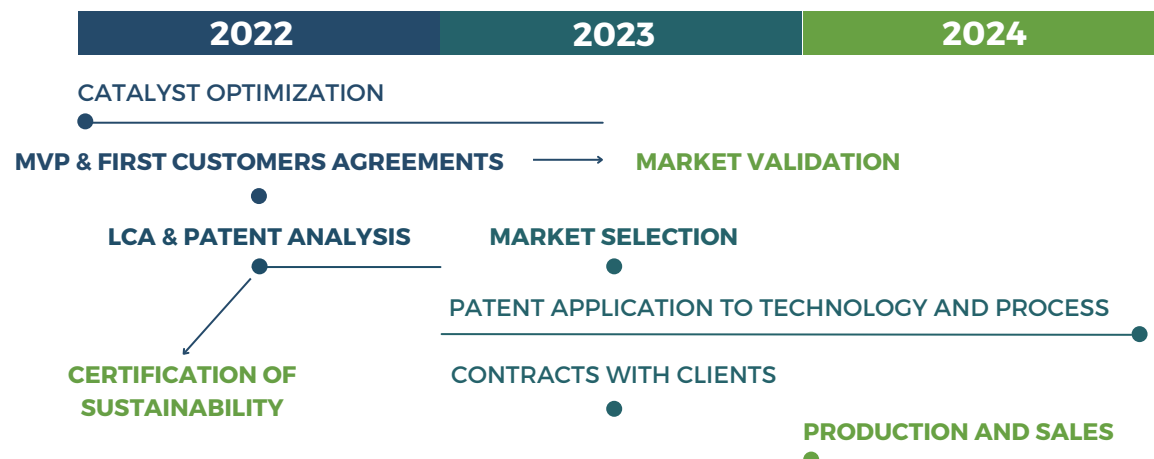
PRIMARY



SECONDARY



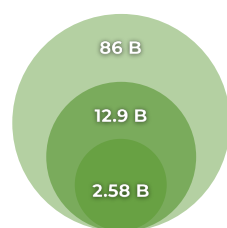
## GO TO MARKET STRATEGY



## IN-HOUSE MARKET ANALYSIS

- ✓ Willingness to pay a **premium price for sustainable cosmetics: 73% out of 600 people**
- ✓ Niche cosmetic market **is looking for sustainable and innovative solutions**: 100 telephone interviews

## WORLD ETHANOL MARKET



### TAM - SAM - SOM

The world ethanol market is worth \$86 billion. The market we are aiming for is instead worth more than two and a half billion.

## REVENUE MODELS

**Directly related to catalyst efficiency - presently 20%**

- **Dec 2023: (30%)** B2B2C agreements with niche perfumeries. Revenue from final product (market validated).
- **Jan 2024: (50%)** B2B (Cosmetics, sanitisers, beverages and fuel). Licensing to multinational companies (contact established).

### Revenues from perfumeries co-branding agreements

Expected Profits	Oct 2022 - March 2023	April - Sept 2023	Oct 2023 - March 2024
Expected Revenues	€625	€7,500	€ 43,750
Ethanol production costs	€60	€432	€840
Profits	€565	€7068	€42,910

Profit margin	90.40%	94.24%	98.08%
Δ% Profits	0%	1.150,97%	507,10%

## AWARDS

**Enactus:** National winner: represented Italy at the Enactus World Cup 2021.

**Incubations:** Won €50,000 in services with incubators all over Italy: Entopan, Step Tech Park, Rome Business School.

**POPRI:** Won an international competition representing Italy (9 different countries).

## GOALS REACHED

**Scale-up:** partnership with an enterprise that will supply us the needed technology

**Partnerships:** Blockchain company (to have official carbon footprint certificates); television; radio; newspaper; IP companies; and other suppliers.

**Technology Readiness Level 4.**