

ARBOREA

Converting carbon dioxide into low cost, sustainable ingredients on barren, non-fertile land

via the industrial photosynthesis of microalgae

Feedstock, even waste feedstock - supply chains are fragile because of it



Politics



Strait of Hormuz



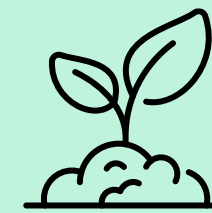
Port Odesa

Deforestation is occurring at a rate of 18 football fields worth of trees every *minute*

Global freshwater demand will exceed supply by 40% *within 5 years*



People and Planet



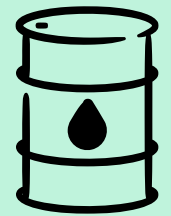
Fertile land

Declining & unequally distributed globally



Fresh water

Increasingly scarce



Energy

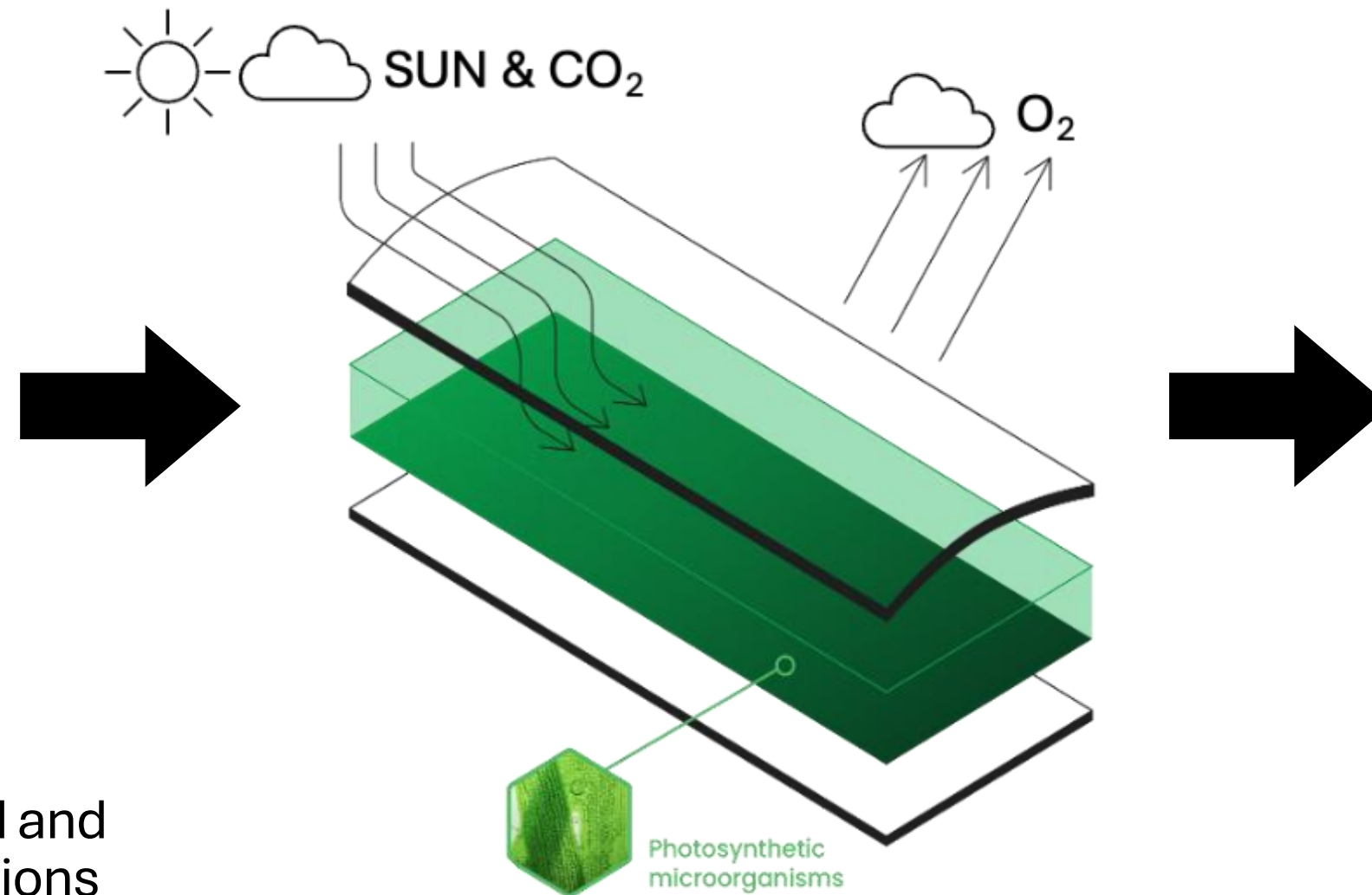
Costly and volatile

New solutions are urgently needed to facilitate **food and key ingredient sovereignty at scale and without traditional constraints**

The Biosolar™ Leaf – a unique new technology: 2 tons CO₂ = 1 ton ingredients

Microalgae with no fertile land or ponds or internal reactors, minimal water & energy

Modular, scalable, low cost 'breathing cultivation' system. unlimited, free feedstock



Low concentration CO₂ captured and converted from any factory emissions or by burning agricultural waste
No pressurization needed!



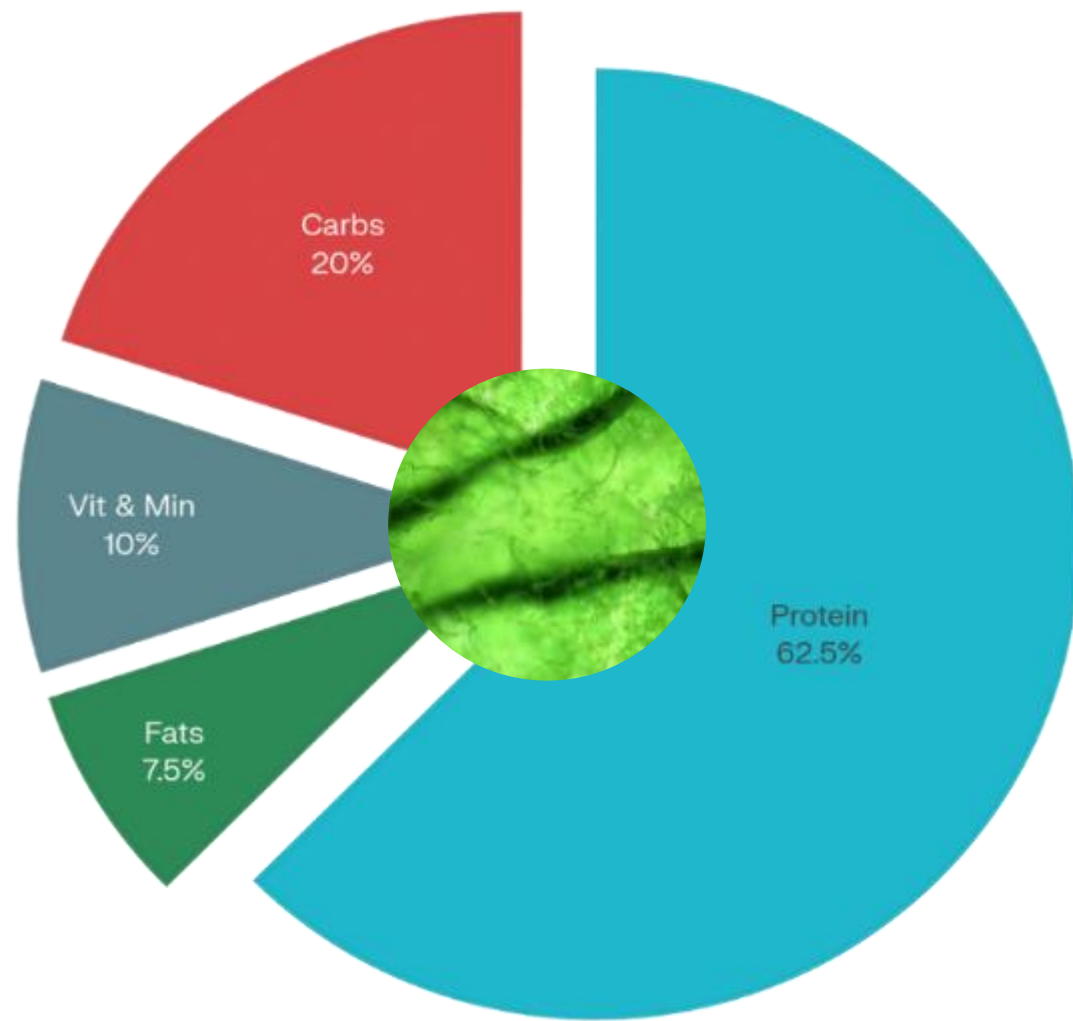
- Multifunctional proteins
- Natural colours
- Essential lipids & Bioactive nutrients
- Food & Food ingredients
- Personal care & Pharma ingredients
- Soil and crop nutrients

Industrial photosynthesis
(converting free carbon dioxide into ingredients with free energy and only oxygen as by product)

ONE platform technology for ANY photosynthetic microalgae

ONE platform both for stand alone ingredients AND feedstock for other processes

ONE platform for nutrition, food, feed, fertilizer, bioprocesses, biofuels, bioplastics



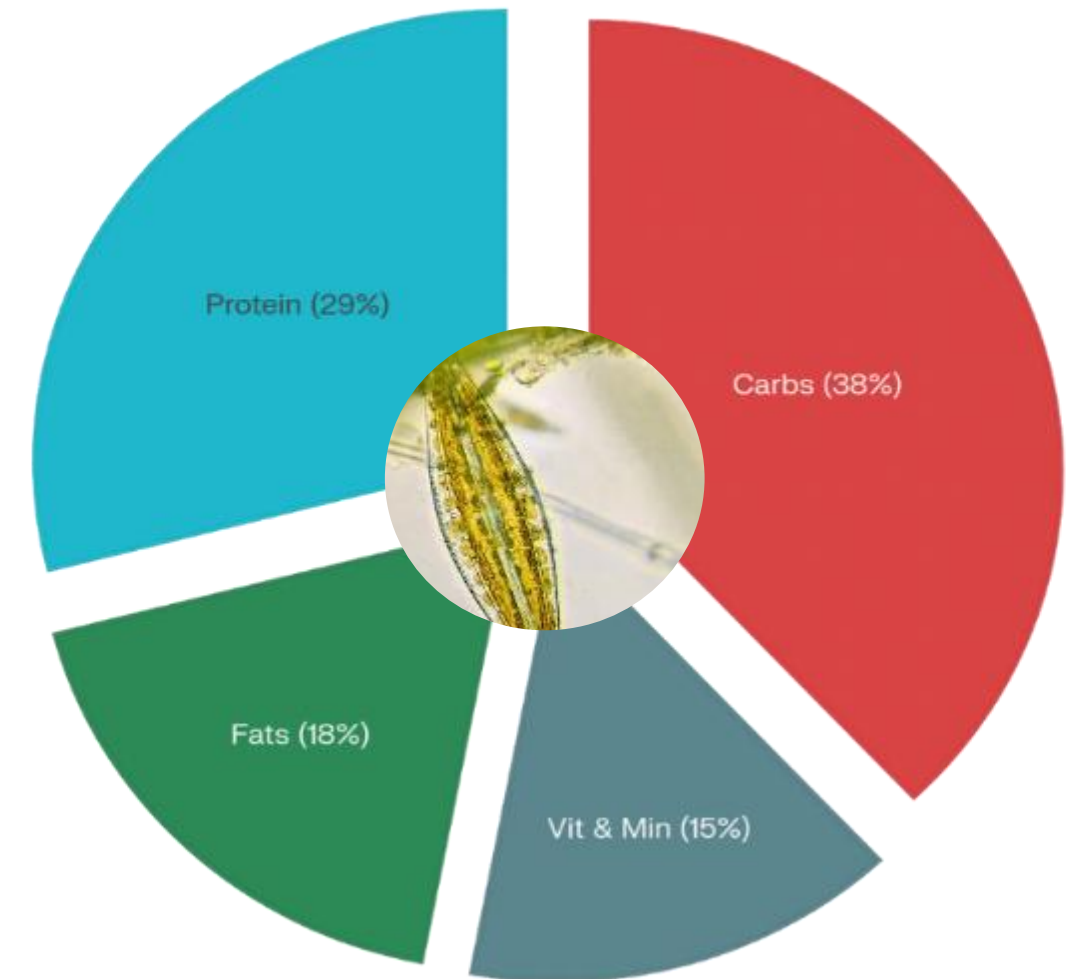
Example: Spirulina

Proteins with a complete amino acid profile and high PDCASS for Nutrition

Carbohydrates including Glucose, Fructose, Sucrose, Mesoinositol (rich in Phosphorous) for feedstock for fermentation or cell culture media

Bioactive vitamins A, D, E, K, B1, B2, B3, B6, B12, C
Bioactive minerals Ca, Fe, P, Mg, Zn, Se, Cu, Mn, Cr, I

Lipids including Omega Fatty Acids for Nutrition or Biofuels or Bioplastics



Example: Nannochloropsis

Microalgae already have multiple, well-documented benefits ...previous studies can now benefit from the ultimate 'enabling technology' to produce them



Nutrition & Health

- Glucose Intolerance
- Obesity
- Inflammatory Disorder
- Fatigue
- Neurological Disorder
- Cholesterol
- Liver & Kidney Disease
- Cancer



Nutri-cosmetics

- Anti-inflammatory
- Proteins & peptides
- Vitamins & minerals
- Free radical scavengers
- Moisturizing emollient
- Bioactive nutrients
- Collagen stimulation
- Skin health



Agrochemicals

- Soil Health
- Plant health
- Bioavailable nutrients
- Biofertilizer
- Stress resistance
- Crop yield
- Soil regeneration
- Seed health

✓ **All validated and cited in 100s of academic papers**

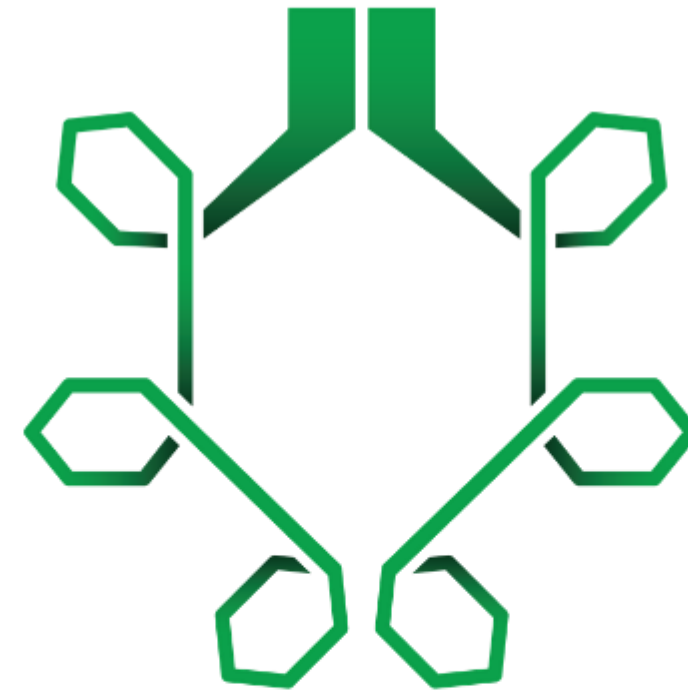
So efficient that a (unused) land area the size of Greater New York could produce as much protein as an entire continent !



Thank you!

We turn free carbon dioxide feedstock into ingredients – no fertile land needed!

Let us collaborate with this new enabling technology!



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