



**Hemp is the
Wizard of Carbon**



Hempoffset + Tao Climate

The way to carbon neutral

Industrial Hemp Cluster of
North Ostrobothnia, Finland
Hemp industry partnership opportunity

Gary Byrnes, Finland Deck - March 2023 - EXTERNAL
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€ financials. Metric measurements.
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The way to
carbon neutral

Google
Startups for
Sustainable
Development



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Our Brand Vision, Mission and Promise

We're using technology to deliver trust and transparency



Vision

Our vision is a sustainable future for everyone, free of the threat of climate change.



Mission

Our mission is to use technology to unleash the power of hemp, and to deliver sustainable infrastructure and opportunities at a global scale.

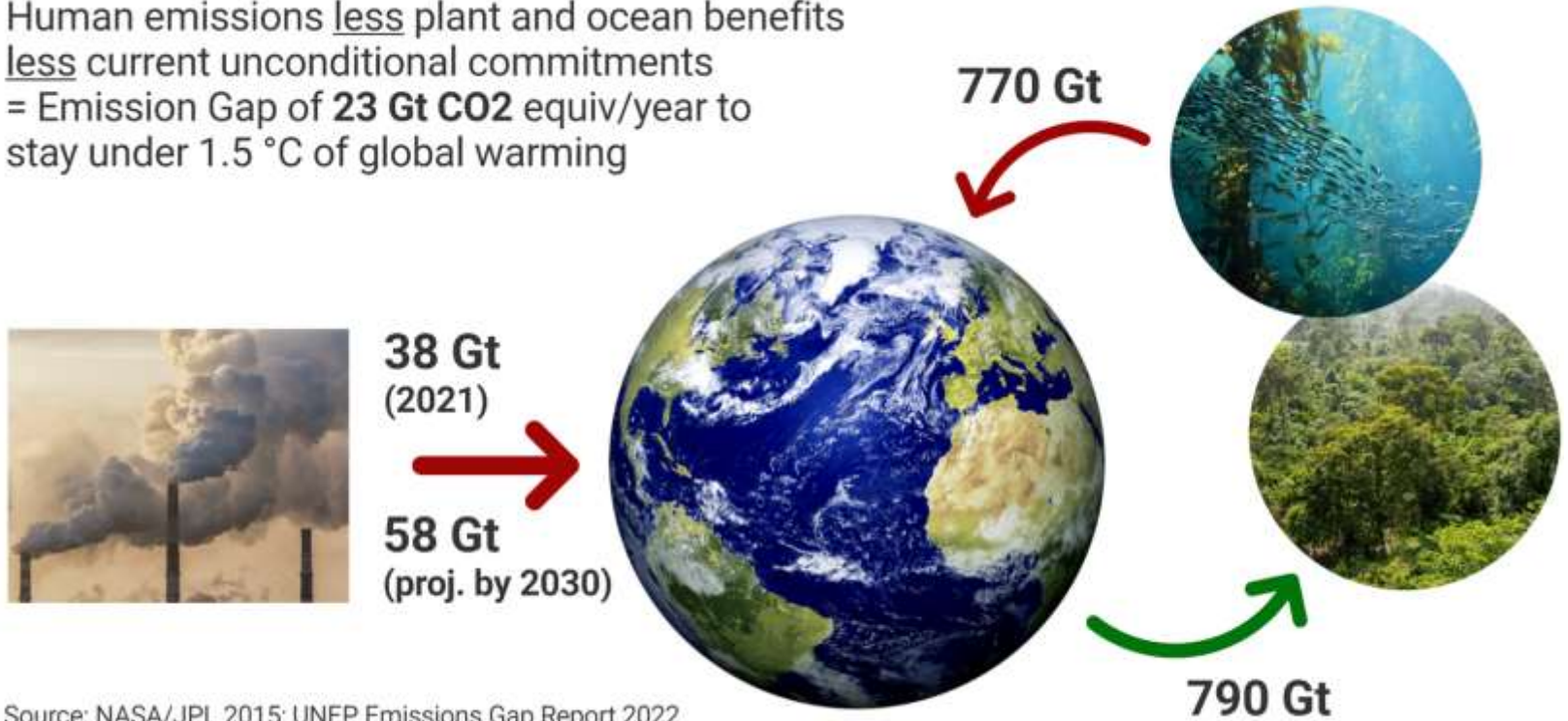


Promise

Our promise is to bring the Tao Climate Platform to market, delivering trust and transparency into carbon markets.

UN Emissions Gap = 23 Gt CO₂/year = 3t/pp

Human emissions less plant and ocean benefits
less current unconditional commitments
= Emission Gap of **23 Gt CO₂** equiv/year to
stay under 1.5 °C of global warming



Source: NASA/JPL 2015; UNEP Emissions Gap Report 2022

A €Trillion Opportunity

The market needs to grow rapidly



“The market for carbon credit accounting and verification needs to be increased massively and quickly, and standardized.”



- Look behind the Voluntary Carbon Market curtain.
- VCMs are mostly NGOs, selling junk carbon credits.
- UN Emissions Gap: 23 gigatons of carbon removal per year is the need. 3 tons/person/year.
- At €100/mt = €2.3Tn is the potential value.
- A fast, measurable, verifiable product category is required and we are delivering it.

HEMP VS FOREST NBS

AN ACRE OF HEMP ABSORBS UP TO

10

TONS OF CO₂ IN A YEAR

5 MONTHS, SEED TO HARVEST IMMEDIATE BENEFITS

OVER 40 YEARS, AN ACRE OF HEMP ABSORBS

400

TONS OF CO₂



2 crops of hemp per year is possible in hot climates!



Hemp is highly profitable, with 150% ROI.



Hemp can be processed into 25,000 products.



Hemp needs 30% less water than most crops.



Hemp does not require pesticides.



Hemp thrives on marginal land.



AN ACRE OF NEW FOREST ABSORBS APPROX.

2.5

TONS OF CO₂ IN A YEAR

BUT IT CAN TAKE 30-40 YEARS TO SEE NET BENEFITS

OVER 40 YEARS, AN ACRE OF FOREST ABSORBS

100

TONS OF CO₂

Hempoffset is carbon neutral made easy



Learn more about hemp carbon offset and how we will stop climate change with the power of hemp. [Visit our website for more details, growers, retailers and shippers.](https://www.hempoffset.com) www.hempoffset.com / twitter.com/hempoffset

HEMPCRETE VS CONCRETE

HEMPCRETE NEEDS JUST LIME, WATER AND

70%

PLANT! INDUSTRIAL HEMP

HEMPCRETE IS JUST AS DURABLE AS CONCRETE

YET IS

6-8

TIMES LIGHTER



1,000-year-old hempcrete structures still stand in Europe.



Hempcrete continues to absorb CO₂ forever! Carbonation.



Hempcrete delivers indoor moisture balance.



Hempcrete has excellent thermal insulation properties.



Hempcrete is naturally mould and pest resistant.



Hempcrete releases no toxins into the indoor environment.



CONCRETE PRODUCTION IS RESPONSIBLE FOR UP TO

8%

OF GLOBAL CO₂ EMISSIONS

IN 2016, GLOBAL CONCRETE

WAS RESPONSIBLE FOR

2.2

BILLION TONS OF CO₂

Hempoffset is carbon neutral made easy



Learn more about hemp carbon offset and how we will stop climate change with the power of hemp. [Visit our website for more details, growers, retailers and shippers.](https://www.hempoffset.com) www.hempoffset.com / twitter.com/hempoffset

Carbon Credit Competitive Landscape

There's a real opportunity for an effective, low-energy product

Current carbon credit price, EU compliance market: €87/ton.
EU target €100/ton.



	Forestry	Hemp, our new category	DAC - Direct Air Capture
Retail price/ton CO2e	€5 - 10	€50-250, Y1 target €100	€1,000 - 1,500
Power consumption	Low	Low	1,500 kWh/ton
Speed	30 - 40 years	4 - 5 months	6 years (Climeworks)
Carbon usefulness	✗	Sustainable construction materials	✗
CO2 capture measurable	✗	✓	✓
Co-benefits	✗	Multiple	✗

We Connect Measurable Value Creators

Our data-driven technology connects and verifies at scale, enabling supply



1. Gather all the data - Crop growing and harvesting - WEIGH.
2. Hemp processing and hempcrete manufacture - WEIGH and MEASURE CARBON.
3. Building construction.
4. End-to-end carbon measurement and verification.
5. Transparent, open blockchain registry.

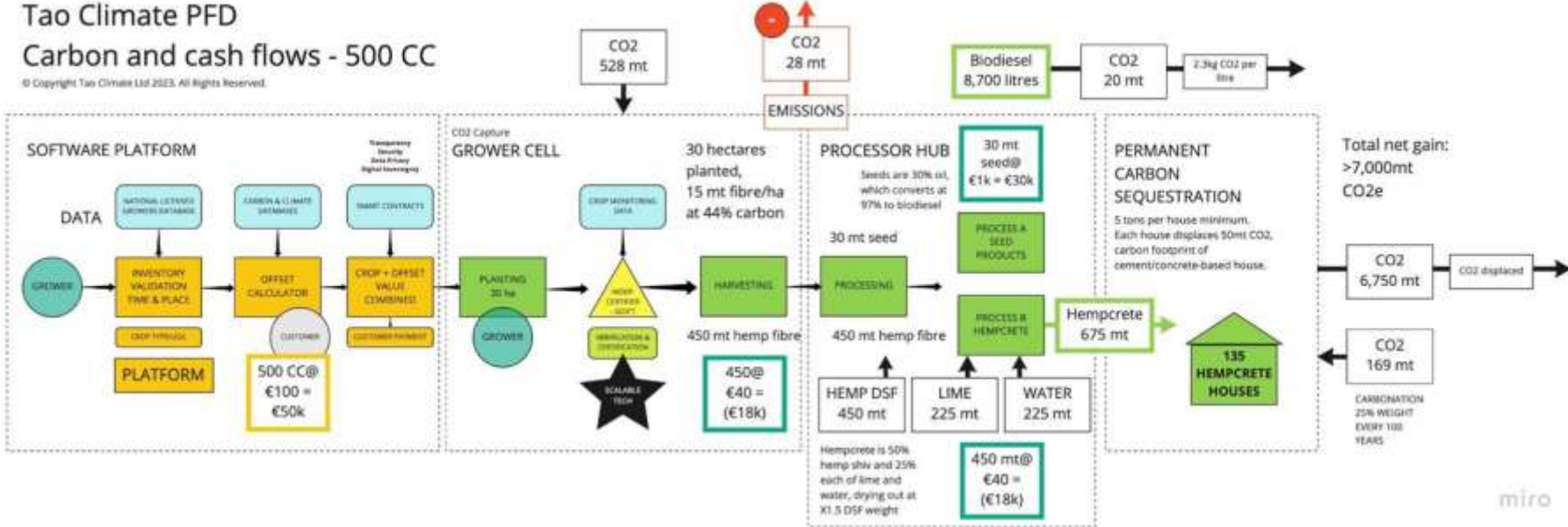


Try it!

Process and Software Flow

Tao Climate PFD Carbon and cash flows - 500 CC

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Why hemp? Why now?

Only hemp has the power to meet real needs fast



1. Climate crisis is real, tipping points in reach. Forestry NbS takes 40 years to deliver carbon benefits.
2. 90% of forestry projects are lost after 10 years.
3. Industrial hemp can grow up to 3 crops a year for fast, measurable carbon capture.
4. Hemp enables carbon removal in near real time. This enables real time inventory sales.
5. UN report lays the groundwork for industrial hemp commodification with first ever intergovernmental report to promote hemp (Nov. 22).

Market Needs

Markets want and need our product

150 Hempcrete (production)

90t CC Buy now

Ukraine
Building hempcrete accommodation for war refugees while providing psychological rehabilitation.

Project area: 11 hectares, Stryi Region, Eastern Ukraine.
Season: One harvest per year.
Carbon processing: Hempcrete, aiming for zero-net-zero infrastructure outputs: Housing for at least 90 refugees.
Co-benefits: Accommodation and trauma therapy for many, while showcasing hempcrete as a way to rebuild Ukraine.
Net CO2 gain: Approx 920 - 1280 mCO2e (subject to accurately determine, due to the current events).
Local partner: Serhiy Kovalenko, Hempire USA.

What would you like to do now?
None of your personal data will be shared with anyone but Tao Climate.

Show your support Save to your account Buy Carbon Credits

Share project Connect with project Partner with project

How projects will be represented on our platform

1. People need a way to act, to make a difference.
2. Voluntary Carbon Markets need to grow dramatically.
3. Big tech needs carbon neutral data centres.
4. Airlines and passengers need effective mechanisms.
5. Ecommerce needs to deal with its carbon footprint.
6. Every business needs to offer carbon credits and/or carbon neutral operations.
7. We need a way to stop using fossil fuels.
8. We need behavioural change.



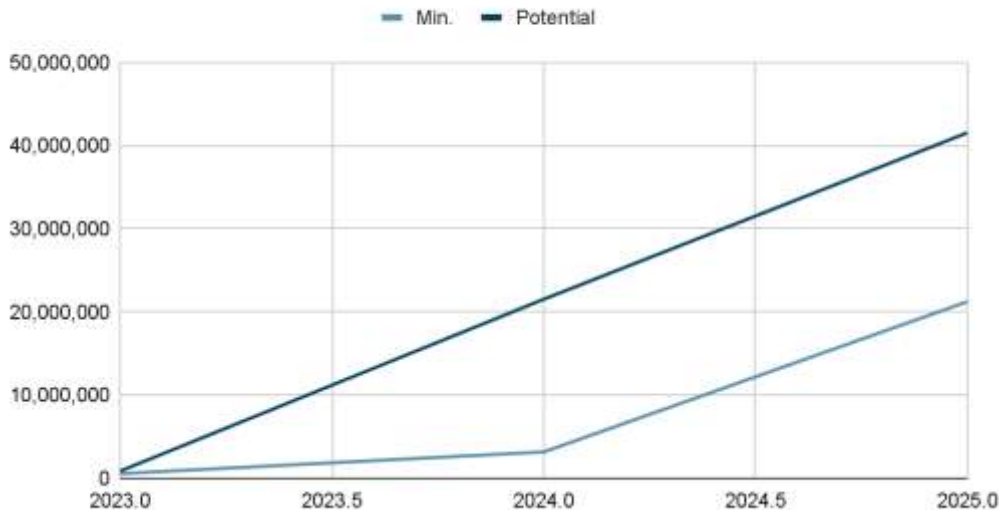
Growing Inventory

Bringing massive quantities of carbon credits to market

Potential partnerships currently in negotiation

- Coral reef reconstruction using hempcrete.
- Canada: 50,000 mt.
- Africa: 900,000 ha.
- Thailand: 400 ha.
- Spain/Greece: 400 ha.
- Ukraine, rebuilding infrastructure: 11 ha.
- Ireland: 200 ha.

Carbon inventory





Best-in-class Carbon Removal

Proof-points + Courage + Heart

Tao Climate's hemp carbon credit product is a new category of NbS.

- Our technology enables verification, certification and transparency at scale. Science-based, data-driven, impacts measured.
- Fully considered, only net carbon gains are sold.
- Transparent, secure carbon credit registry builds trust.
- Carbon permanently and safely sequestered in hempcrete for sustainable homes and commercial buildings.
- We're using one problem to solve another, at global scale.

Our Team

Direction and Purpose Meet Experience, Diversity and Focus



Gary Byrnes
Revenue, Founder
15+ years' B2B marketing, plus media and software. Driven to achieve UN SDG 13, while building shareholder value.



Felix Roick
Operations, Co-founder
Web developer and entrepreneur with ecommerce focus.



Reggie Morgan
CTO
15+ years' software engineering experience, front end data capture specialisation, React.



Pascal Marsh
Design, UX Lead
20+ years' UX and design experience, front end specialisation.



Tara Byrnes
Senior Brand Marketing
Senior Europe brand marketing manager at Coca-Cola, brings B2C product marketing skills.



Pauline Lowe
ESG and Climate Leader
Sustainability, ESG at Zurich Insurance. EU politics and lobbying expertise.

Joe Glynn MSc
Sustainable Development - Consultant
20 years' experience in sustainable development, housing and hemp infrastructure projects.

Niall O'Sullivan
Product - Advisor
Software entrepreneur has delivered complex software projects, led UX, and sold a business to big tech.

Ed Hanbidge
Hemp grower - Partner
Licensed industrial hemp grower for 7 years in Ireland. Makes and sells organic hemp products.



There's no...
thing like hemp to save the world!



Now join us!

Hempoffset.com/grow

Linkedin.com/company/taoclimate

Supporting content

www.taoclimate.com

www.hempoffset.com

[Live carbon prices](#)

[WEF White Paper on Scaling Sustainability Markets](#)

[Spreadsheets used in this deck](#)

Clarity

Industrial Hemp

≠

Cannabis

- Produces < 0.3% Tetrahydrocannabinol (THC).
- High CBD concentration.
- Psychoactive: No.
- Extensive, strong fibre.
- Legal across EU and most of world.
- Thousands of product uses, from hempcrete and fabric, to biodiesel and plastics.

- Produces 5 - 30% Tetrahydrocannabinol (THC).
- Low CBD concentration.
- Psychoactive: Yes.
- Minimal fibre.
- Legal status. Medicinal: Legal in many countries, including Ireland. Recreational: Legal in some EU countries, Canada, many US states, other countries.



THE VERY USEFUL INDUSTRIAL HEMP

Hemp cultivation requires no chemicals, pesticides or herbicides.

with over **50,000** different uses...

HEMP SEEDS

← Harvest →

HEMP STALKS

HULLING

PRESSING / CRUSHING

← Intermediate processing →

DECORTICATING

← Further processing →

HEMP MEAT

Food

Dairy products

HEMP SHELL

Flour

FLOUR

Bakery Products

HEMP OIL

Personal Care Products

Cooking Oil

Fuel / Paint

HEMP CAKE

Food Beer

Feed

FEED

HEMP is a RESOURCE

20 vs **4**
years for trees to mature vs months for hemp

Hemp can yield 3-8 dry tons of fiber per acre, FOUR times what an average forest can yield.



Paper, fertilizers, soil nutrients and animal bedding can be made from leftover waste when processing hemp.

This means all parts of the plant are being used, or put back into the earth.

Hemp seeds contains nutritious, **Polyunsaturated Fatty Acids (PUFAs) 80%** the highest amount found within the plant kingdom. **Highly nutritious** of humans and animals.

HEMP FIBER

Hacking

PRIMARY (Lime) Fiber

Fabric Insulation Carpeting Paneling

Hacking

SECONDARY

Cordage Pulp Recycling Additive

Scouting

TOW

Cordage Bagging Fiber Board

Anything made out of cotton, timber or petroleum can be made out of hemp

Hemp fiber is the **strongest natural fiber** in the world

HEMP HURDS

Scouting

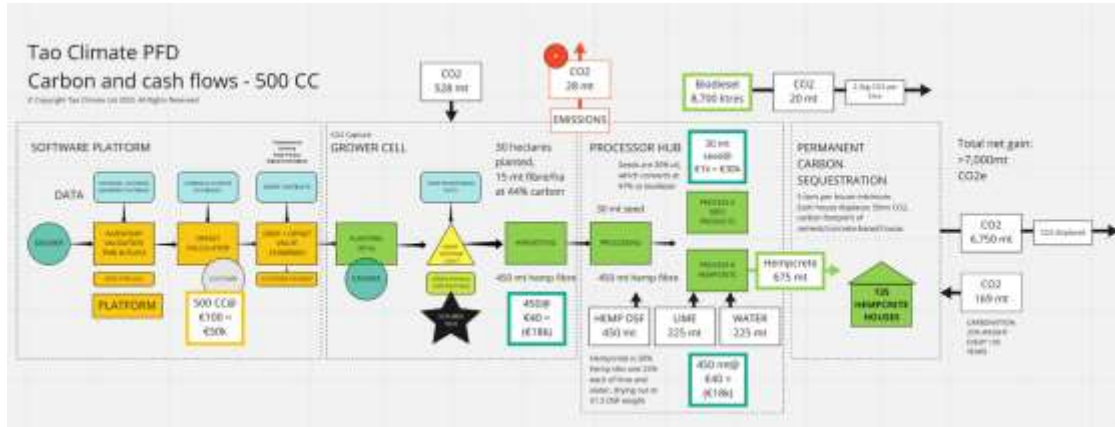
Fiber board Compost Mortar Paper filler Absorbent bedding Chemical feedstocks - Plastics / Paint / Sealant

Hemp hurds can be cleanly **Converted into Gasoline!**

Through a **fast biomass** called **PYROLYSIS** Hemp Biomass can also make Ethanol, Methanol & Methane Gas

Fully Considered

Tao Climate carbon removal products are the best in the world



100% fully considered. CO2 generated by processes is measured and subtracted from crop CO2 captured.

We use ISO 14064-2, specification with guidance at project level for quantification, monitoring and reporting of GHG emission and removal.