



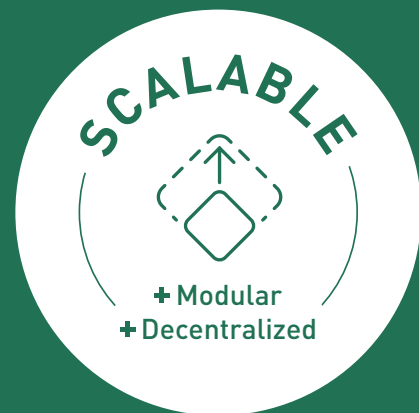
SOLUTIONS



REFERENCES

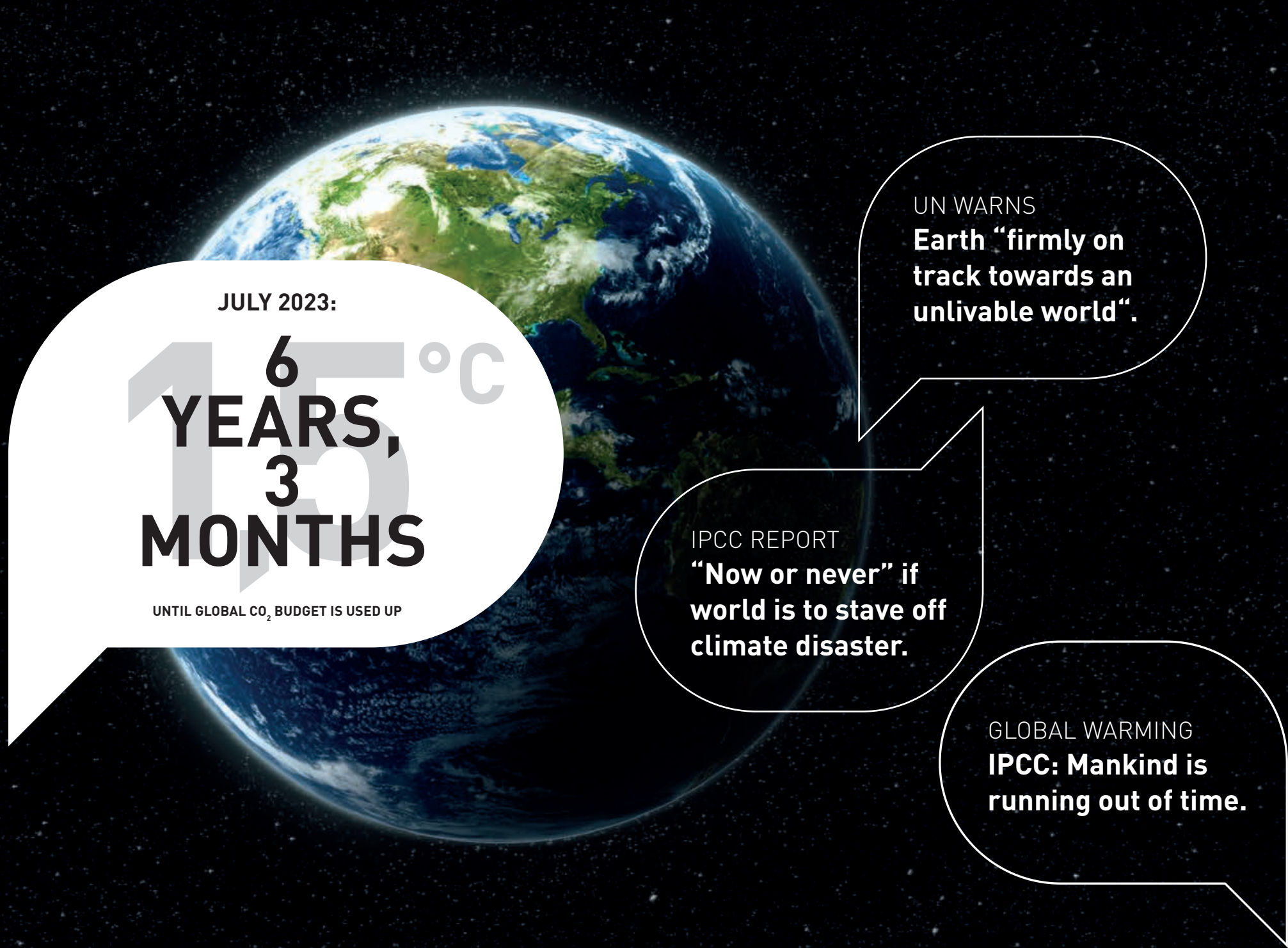
PYREG

NET ZERO TECHNOLOGY



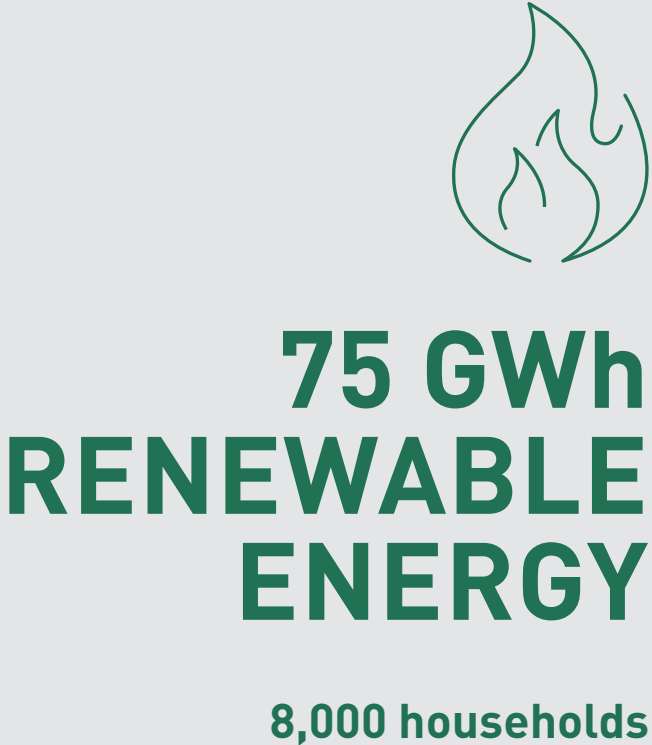
BIOCHAR CARBON REMOVAL





PYREG’S CARBON DIOXIDE REMOVAL TECHNOLOGY
NECESSARY TO ACHIEVE OUR CLIMATE GOALS

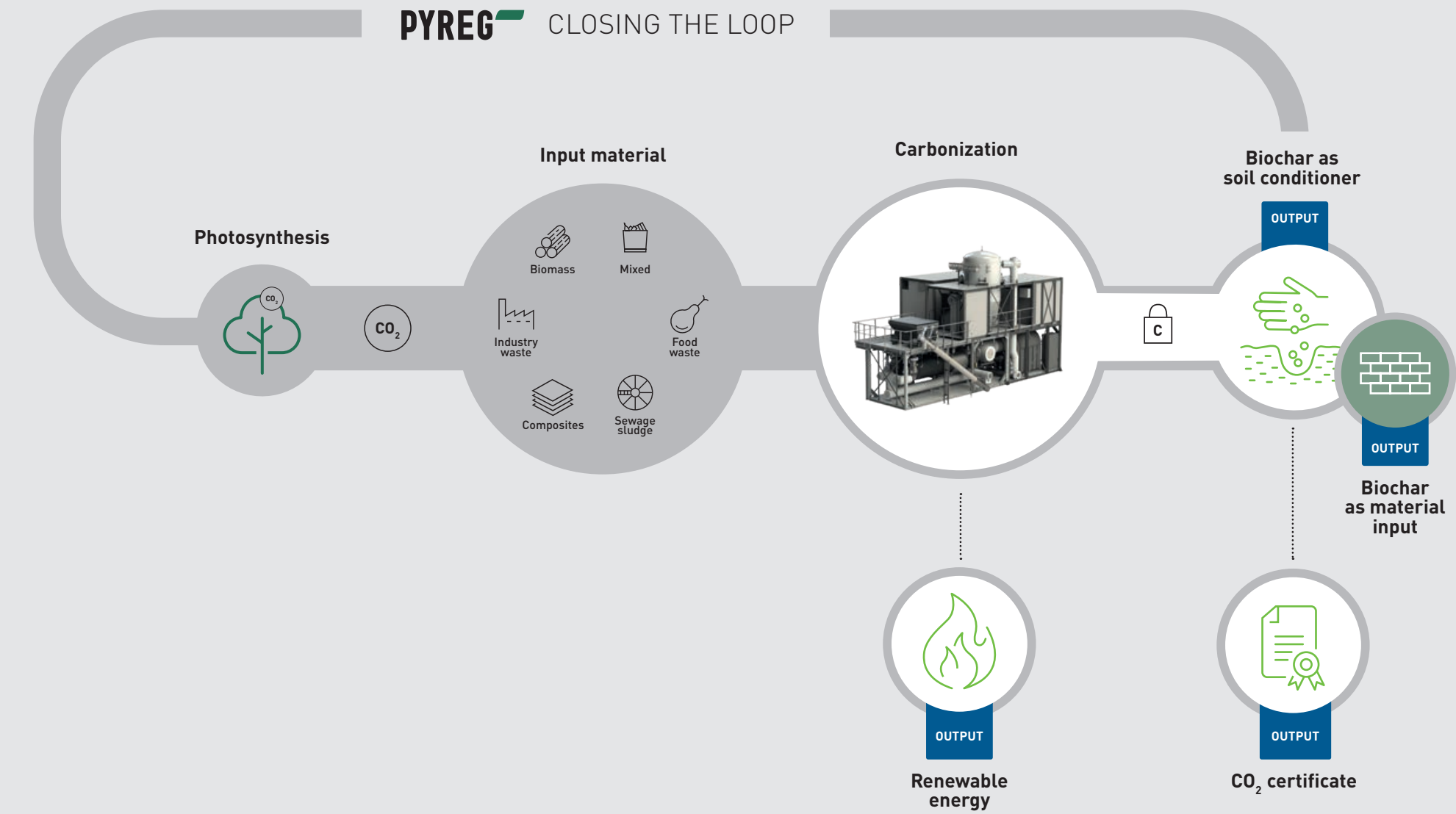
50+
systems worldwide



By the end of 2023

per year

PYREG SOLUTIONS
CARBONIZATION



PYREG SOLUTIONS
MULTI-MATERIAL CAPABILITY



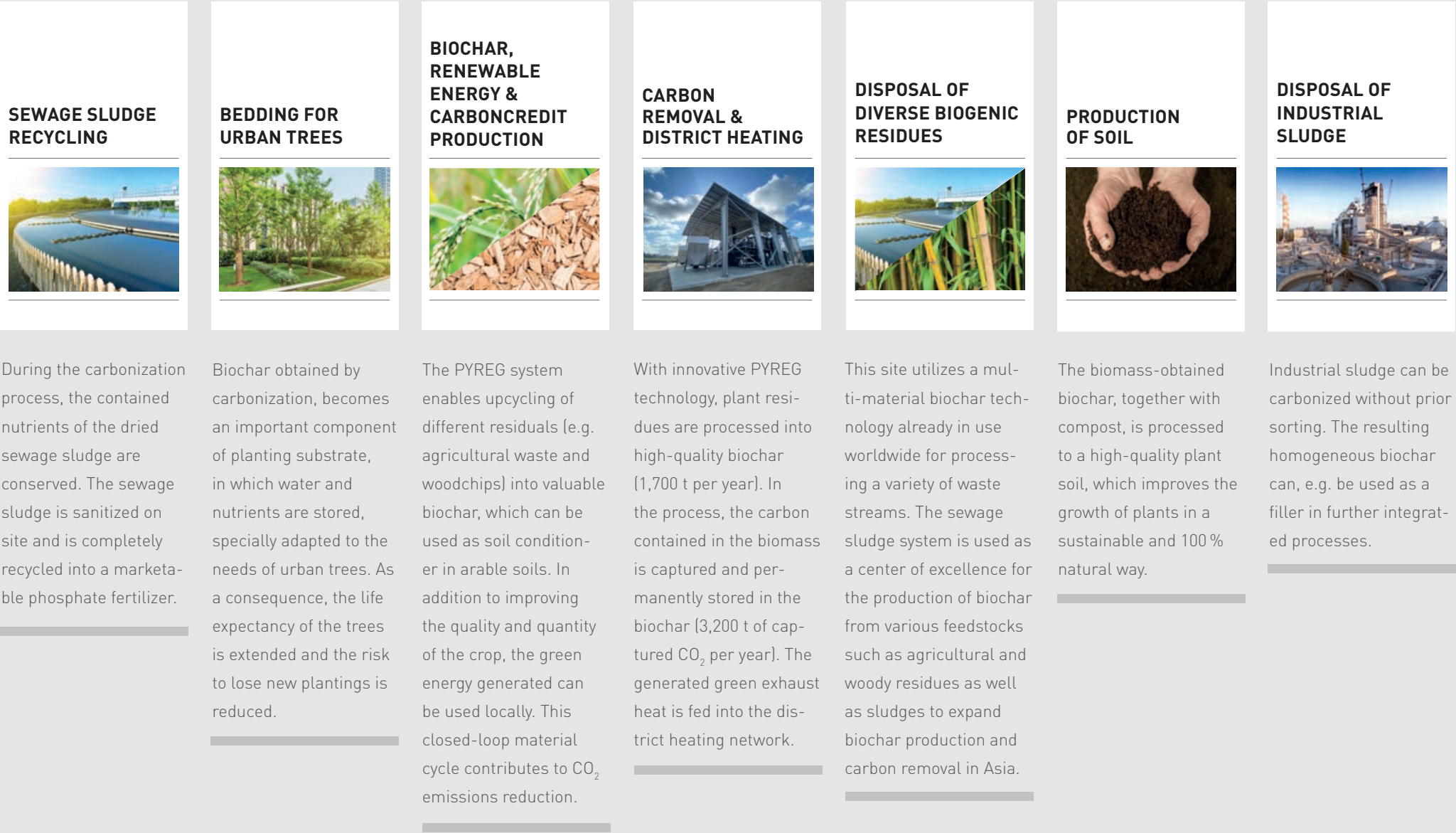
PYREG SOLUTIONS
WORLDWIDE

MARKET LEADER



PYREG SOLUTIONS
WORLDWIDE

IN DETAIL



REFERENCES & PARTNERS

REFERENCES SOIL PRODUCTION



Our customers actively contribute to climate protection, as carbon remains contained in the soil for thousands of years (carbon sink). Over the course of time we have put three PYREG plants into operation – what better proof can there be that we stand by our ecologically and economically sensible decision?



CHRISTOPH ZIMMERMANN
MANAGING DIRECTOR

Moola is the name of the biochar, produced by Fetzer Rohstoffe & Recycling GmbH, which is made from regional biomass (wood chips, grain husks). During production, up to 150 KW of heat are generated per plant. Fetzer uses this heat to heat the water system of a PET recycling plant. The remaining energy is used to heat the administration rooms.



Gentle carbonization of the residual materials is the basis of our valuable potting soil. We have chosen PYREG because their many years of scientific support and practical experience give us great security regarding our sustainable product quality. And with the additional commercialization of CarbonCredits at Carbonfuture, we have been able to expand our business model since 2022.



AARON SASSMANNSHAUSEN
MANAGING DIRECTOR

In close cooperation with the University of Halle-Wittenberg, Bionero GmbH has developed a Terra Preta made of unused biological materials. This plant soil, produced from vegetable charcoal and compost, improves the growth of plants in a sustainable and 100 % natural way.





REFERENCE

CARBON DIOXIDE REMOVAL & RENEWABLE ENERGY



As the leading marketer of EBC certified biochar, we are opening *The Carbon Removal Park Baltic Sea* in Grevesmühlen (Germany) in 2023 - the largest site of Novocarbo. To be able to handle such a project and guarantee our quality promise on a long-term basis, we need a reliable technology. Therefore we have been successfully cooperating with PYREG from the very beginning. This new site is only a next step on the way.

”



CASPAR VON ZIEGNER
MANAGING DIRECTOR

“The Carbon Removal Park Baltic Sea” in Grevesmühlen (Germany) is the largest site of the German cleantech startup Novocarbo. On this site we produce high-quality biochar (1,700 t per year). In this process, the carbon contained in the biomass is captured and permanently stored in the biochar (3,200 t of captured CO₂ annually). The generated green exhaust heat is fed into the district heating network of Grevesmühlen, increasing the share of renewable energies from 60% to 75%.

www.novocarbo.com

REFERENCES

BIOCHAR PRODUCTION & CARBON DIOXIDE REMOVAL



Maine is the place to deploy, state of the art carbonization technology and the time is now! Our vision is to co-locate biochar production at large sources of biomass feedstock (using byproducts from Maine’s vast working forests), thereby driving a true circular economy, through the application of innovative NetZero technology. Using a proven process, we will use these forestry byproducts to produce an end product that nourishes soils, cleans water and re-

moves carbon dioxide from the atmosphere, while simultaneously generating renewable energy. To make this vision a reality, we have chosen PYREG as our strategic partner. We are thrilled to be walking this path together and doing good – not only for the region, but also for the world.

”



FRED HORTON
CEO STANDARD BIOCARBON

Standard Biocarbon has a mission to lead the creation of a modern North American biochar industry as part of a global climate solution.. The company will manufacture high quality European standard biochar with Pyreg machines from forest waste which have traditionally been used for paper or power generation, both in decline. Our goal is to create a new growth industry, leveraging the infrastructure of the forest products industry in our region to serve growing demand for better soil, cleaner water and less CO₂ in the air.

www.standardbiocarbon.com





REFERENCES
SEWAGE SLUDGE RECYCLING



”

Water supply and disposal plays a key role in securing peace, growth and prosperity worldwide. HST actively shapes environmental protection with solution-oriented engineering developments. PYREG plays a decisive role in this. Our project in Trutnov is an example of the succesful implementation of a future-proof green technology.



PETR HELLMICH
DIRECTOR

The activities of the HST Group include the manufacture of products, the supply of turnkey system solutions and engineering services for water management plants in the municipal and industrial sectors. By combining several specialized companies under one roof, HST is able to offer comprehensive solutions for almost all water management problems.

www.hydrosystemy.cz

REFERENCES
DISPOSAL OF INDUSTRIAL SLUDGE, RESIDUALS



”

Our goal is to provide our customers with a complete, efficient and cost-effective solution which continually creates an added value. By integrating PYREG technology at the respective sites and making additional use of the bioenergy generated, we have achieved this in a sustainable manner.



PENG JIANG
MANAGING DIRECTOR

Henotec GmbH, founded in 2012 in Munich, helps European environmental technology companies enter the Chinese market. Henotec Qingdao specializes in solutions for the recycling of bio-waste, henotec Shanghai in solutions for the recycling of hazardous waste.

www.henotech.com





REFERENCE
SOIL AND SEED PRODUCTION



In this day and age, it is especially important to break new ground. That is why we have already decided to rely on PYREG technology since 2019. The use of biochar in our business field not only helps the environment, but also the end customer. The production technology must be both economical and ecological, which is why Skanefrö was the first company to receive a plant of the latest PX generation. PYREG and Skånefrö – a partnership that works well.

”

Skånefrö AB

SVEN-OLOF BERNHOFF
VD-CEO

Skånefrö is one of Sweden's leading seed companies with one of the most modern seed factories in Europe. With PYREG technology high-quality biochar is produced for soil application from various biomass residues, that are produced during seed production. The complete excess thermal energy from carbonization process is fed into a district heating network, which supplies parts of Hammenhög and Tommarp with regenerative energy.

www.skanefro.se

REFERENCE
ACADEMICS



“This exciting and highly topical subject focuses, among other things, on the fact that the biochar introduced into the soil not only serves as a long-term CO₂ sink, but also makes the soil more fertile and less susceptible to the negative consequences of intensive use and climate change,” says Bruno Glaser.
“I have been working successfully with PYREG for more than 10 years, as their technology enables the use of this natural problem solver.”

”

MARTIN-LUTHER
UNIVERSITÄT
HALLE-WITTENBERG

PROF. DR. HABIL. RER. NAT. BRUNO GLASER
SOIL BIOGEOCHEMISTS AND UNIVERSITY LECTURER AT THE UNIVERSITY OF HALLE (SAALE)

Our cooperation partner Professor Dr. Bruno Glaser, a German soil biogeochemist and lecturer at the University of Halle (Saale), with a research focus on Terra Preta and biochar, is considered a luminary in the field of biochar.

www.landw.uni-halle.de/prof/bodenbiogeochemie



PARTNERSHIPS
COOPERATIONS

puro•earth

Carbonfuture

EBI
European
Biochar
Industry

DÜRR

ANZ
BIOCHAR
INDUSTRY GROUP

USBI
Building the future from the ground up.™

European
Sustainable
Phosphorus
Platform

International
Biochar
Initiative

Skånefrö AB

HST
HYDROSYSTEMY

char
net
Schweizer Fachverband
für Pflanzenkohle

Novocarbo

Carbon
Business
Council

EBC
EUROPEAN BIOCHAR
TECHNICAL CERTIFICATE (EBC)

henotec

Kita

StandardBiocarbon

NORTH
TEC

Zahnen
TECHNIK

GERMAN
BIOCHAR

ElectraTherm

DEUTSCHE
PHOSPHOR
PLATTFORM

ELIQUO

BIOFORCETECH
Corporation

WE ARE

Technology Partner

puro•earth + PYREG

Empowering biochar suppliers to monetize their carbon
removal activities

PYREG is thrilled to be recognized as the first technology partner of puro-earth, the world’s leading crediting platform for engineered carbon removal. PYREG`s patented high-tech carbonization systems have gained industry recognition for their ability to produce high-quality biochar that meets the stringent eligibility requirements set by the Puro Standard for CO₂ Removal Certificates (CORCs). Therefore PYREG`s customers have the opportunity to monetize their carbon removal operations by leveraging the credibility and integrity of the Puro Standard. Through their Puro Accelerate program, puro-earth further enables biochar producers to secure funding for their projects in development. Together, we aim to foster the expansion of carbon removal initiatives.

PYREG

Technology Partner

The first recognized partner providing
high-tech carbonization machines that
meet the Puro Standard requirements for
CORCs.

puro•
earth

REFERENCES BIOMASS

P1500, P500

		SITE	SYSTEM	COMMISSIONING	
1	Verora GmbH	Edlibach SUI	P500	2012	Woodchips Green waste
2	Fetzer Rohstoffe und Recycling GmbH	Eislingen GER	P500 2 x P500	2013 2018	Woodchips Forestry and agricultural residues
3	NovoCarbo GmbH	Dörth GER	P500 2 x P500	2014 2018	Woodchips Screenings
4	Finzelberg GmbH & Co.KG	Andernach GER	P500	2015	Production residues
5	Abfallwirtschaftsgesellschaft des Neckar-Odenwald-Kreises (AWN) mbH	Buchen GER	P500	2016	Woodchips Various biomass
6	Greenpoch s.a.	Wagnelée BEL	P500	2016	Woodchips Green waste
7	Stockholm Vatten	Stockholm SWE	P500	2016	Woodchips Green waste
8	Skanefro AB	Hammenhög SWE	P1500	2018	Agricultural residues (pallets) Various biomass
9	Bionereo GmbH	Thurnau GER	P500	2018	Woodchips Green waste Various biomass

10	AS Rohstoffe GmbH	Lohsa GER	P500	2020	Woodchips Forestry and agricultural residues
11	Jordpro AS	Trondheim NOR	P500	2020	Woodchips Green waste
12	thyssenkrupp rothe erde Germany GmbH	Lippstadt GER	PX1500	2022	Woodchips screenings
13	NovoCarbo GmbH	Grevesmühlen GER	2 x PX1500	2022	Woodchips Green waste
14	Blackbull Biochar	Manchester UK	P500	2023	Woodchips Wastewood
15	Standard Biocarbon	Maine USA	2 x PX1500	2023	Woodchips waste wood
16	PREOL. a.s.	Lovosice Czech Republic	PX1500	2024	Agricultural residues
17	TCHAR CO. LTD	Taichung City TAIWAN	PX1500	2024	Agricultural Residues Green Waste

REFERENCES SEWAGE SLUDGE

P500

		SITE	SYSTEM	COMMISSIONING	
18	Zweckverband Abwasserbeseitigung Linz-Unkel (KdöR)	Unkel GER	P500	2015	Dried sewage sludge
19	Entsorgungsverband Saar (EVS) (KdöR)	Homburg GER	P500	2016	Dried sewage sludge
20	Silicon Valley Clean Water	Redwood, California USA	P500	2017	Dried sewage sludge
21	Skanefro AB	Hammenhög SWE	P500	2019	Dried sewage sludge
22	HST Hydrosystémy s.r.o.	Trutnov CZE	P500	2020	Dried sewage sludge
23	Abwasserverband Main-Taunus (KdöR)	Lorsbach GER	PX750	2021	Dried sewage sludge
24	Umweltbetriebe der Stadt Kleve AöR	Kleve Germany	PX750	2022	Dried sewage sludge
25	Bioforcetech Corp.	Ephrata, Pennsylvania USA	PX500	2023	Dried sewage sludge
26	Bioforcetech Corp.	Redding, California USA	PX500	2023	Dried sewage sludge
					PHOSPHORUS FERTILIZER

REFERENCES INDUSTRIAL RESIDUALS / DISPOSAL

P1500, P500

		SITE	SYSTEM	COMMISSIONING	
27	Shanghai Meiho International Logistics Co., Ltd.	Shanghai CHN	P500	2020	Paint waste
28	DESMI A/S	Hyderabad IND	P500	2020	Mixed municipal waste
					VOLUME REDUCTION

REFERENCES PYREKA

LABORATORY SCALE UNIT OF PYREG SYSTEM

		SITE	SYSTEM	COMMISSIONING
29	Agroscope, Bundesamt für Landwirtschaft (BLW)	Zürich SUI	PYREKA	2014
30	Austrian Institute of Technology (AIT)	Tulln AUT	PYREKA	2016
31	Zürcher Hochschule für Angewandte Wissenschaften (ZHAW)	Zürich SUI	PYREKA	2017
32	Fachhochschule Burgenland	Pinkafeld AUT	PYREKA	2020
33	Universität Kassel	Kassel GER	PYREKA	2020
34	Hochschule Nordhausen	Nordhausen GER	PYREKA	2021

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