

Your Partner in a Net-Zero Future.

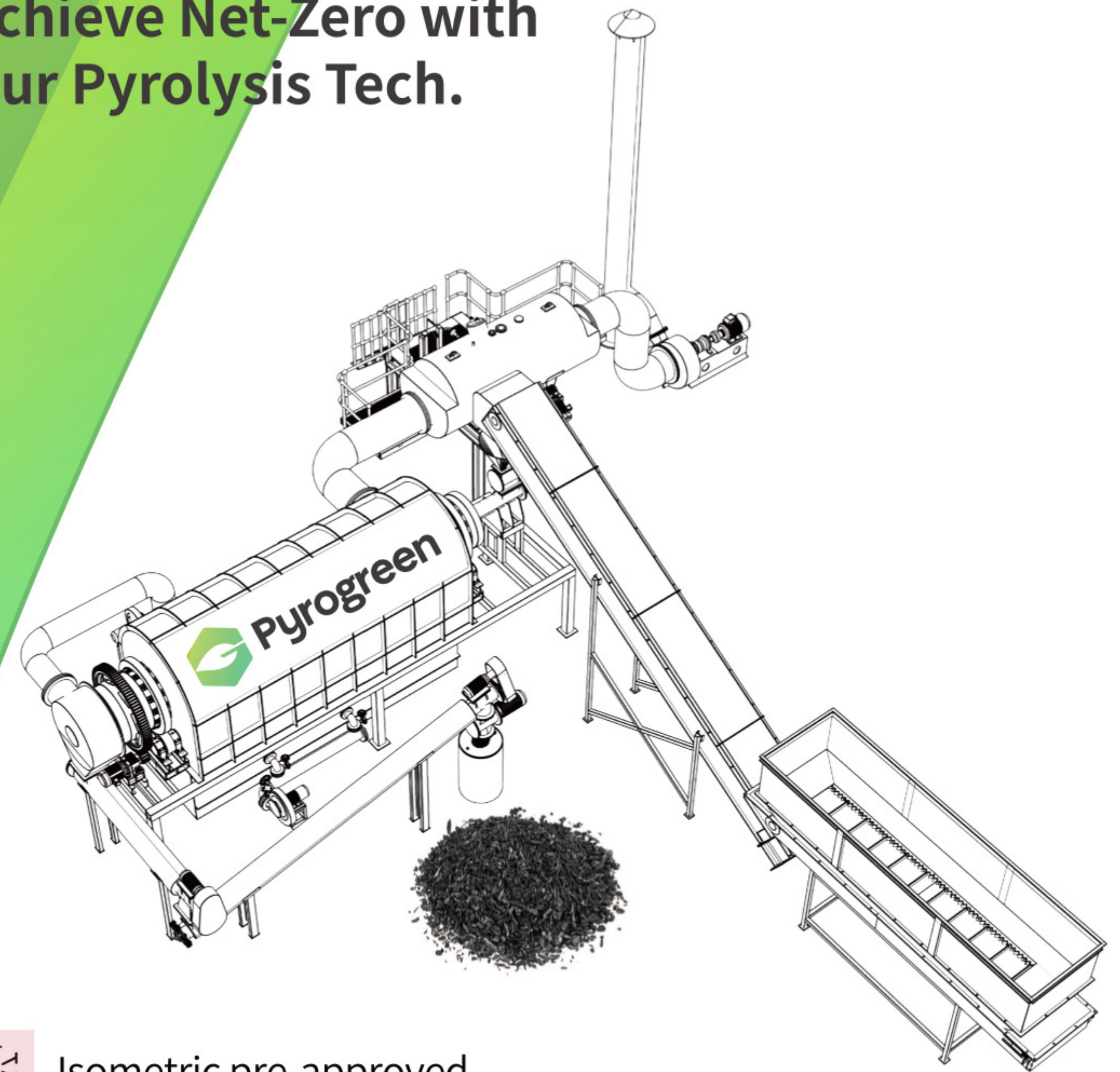
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www.pyrogreen-energy.com



BIOCHAR, BIOCOAL & BIOCARBON SOLUTION

Achieve Net-Zero with
Our Pyrolysis Tech.



POWERMAX RENEWABLES

Wuxi Powermax Renewable Energy Technology Co.,Ltd.

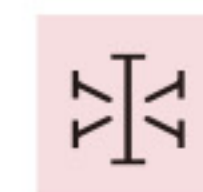
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ASME  



Isometric pre-approved

Carbon Emission Reduction | Carbon Sequestration | Carbon Removal | Carbon Credit

**POWERMAX IS
A GREEN & CLEAN ENERGY
COMPANY.**



**To limit global warming to 1.5°C, the world
must reach net-zero CO₂ emissions by 2050.**

From Waste to Worth, From Carbon to Credit

Join Powermax in sequestering 1,000,000+ tons of CO_{2e} by 2030

Dear Readers,

As global climate challenges intensify, proactive action has become an industry-wide imperative. As a global integrated energy solutions provider, Powermax is driven by technological innovation to deliver stable, high-efficiency gasification, pyrolysis, and carbonization systems to clients worldwide. Backed by deep engineering expertise and proven scalable solutions, we empower industries to transition toward a waste-to-resource model-transforming today's organic by-products into the green resources that will power the future.

We deploy a streamlined, high-efficiency technical architecture to close the loop on low-carbonvalue. Through our core thermochemical systems, we co-process biomass feedstocks and organic waste into premium-grade biochar and clean electricity. This dramatically reduces solid waste volumes and cuts lifecycle carbon emissions across the entire industrial chain, while enabling partners to generate certified carbon removal credits (CDR). Backed by continuous technological iteration and robust engineering design, we deliver quantifiable, traceable, and verifiable decarbonization outcomes to clients worldwide.

2030 Core Commitment. Empowering global partners through integrated biochar production and carbonization solutions, Powermax is committed to enabling the cumulative sequestration of over 1,000,000 metric tons of CO₂-equivalent by 2030-secured through the long-term stability of biochar in terrestrialsystems.

Anchored in technology, accelerated by partnership: we stand with collaborators worldwide to build a sustainable, climate-positive future.

We hope you enjoy reading!
Powermax Renewables Team

The Climate Crisis: Critical Global Warming Core Metrics

Key Indicators and Systemic Impacts of Global Climate Changing

Current State of Global Warming

Since the onset of industrial-scale development around 1850, the global average surface temperature has risen by more than 1.1°C above pre-industrial levels (1850–1900 baseline). This accelerating warming trend continues to intensify, driving heightened risks of climate system destabilization and cascading ecological thresholds.

While methane (CH_4) has a relatively short atmospheric lifetime of 9–12 years before natural oxidation, carbon dioxide (CO_2) behaves fundamentally differently: a significant fraction of emitted CO_2 persists in the atmosphere for centuries to millennia, driving long-tailed radiative forcing with multi-generational climate consequences. According to 2024 atmospheric monitoring data from NOAA and the Scripps Institution of Oceanography, current global CO_2 concentrations have reached ~426 ppm—the highest level in at least 800,000 years, based on ice-core reconstructions and direct observational records.

Cumulative Forcing of Greenhouse Gases

Irreversible Impacts on Ecosystems

Since the early 20th century, the global mean sea level has risen by approximately 20 cm, posing sustained threats to coastal human settlements and marine ecosystems.

Since the 1970s, 40% of sea ice in the Arctic region has completely melted, pushing polar ecosystems to the brink of collapse and further triggering positive feedback loops that accelerate global warming.

According to calculations in an authoritative report issued by the UK Government, if climate change continues to spiral out of control, the direct and indirect economic losses it causes will exceed 20% of global annual GDP. No economy worldwide can remain unaffected.

The impacts of climate change are already fully manifest. Behind every set of data lie severe challenges facing global ecosystems and human society. Only by initiating emission reduction actions immediately can we curb the escalating crisis.

Systemic Risks to the Global Economy

POISED FOR WHAT'S NEXT

SHAPING TOMORROW'S ENERGY SOLUTIONS

We are accelerating the global shift toward climate-positive solutions.

With advanced pyrolysis and gasification technologies, residues become carbon-negative energy and long-term carbon storage — turning today's challenges into tomorrow's climate gains. Supported by integrated engineering and lifetime service, we help industries cut emissions, lock away carbon, and build a resilient, low-carbon future.

The transformation is underway — let's move it forward.



We deliver tailored, solution-focused support that goes beyond transactions. At Wuxi Powermax, customers are our long-term partners, and we stand by you at every stage of your project lifecycle.



We turn tomorrow's sustainability goals into today's actionable solutions. Our gasification and pyrolysis technologies help you reduce emissions, maximize resource efficiency, and build a greener, circular future.



Backed by 30+ years of hands-on expertise in gasification and pyrolysis, we master every detail of system design, integration, and commissioning — delivering robust, high-performance solutions you can trust.

Engineering-Grade Practical Design Flexible Deployment Across All Scenarios

Powermax Rotary Kiln System | An Industrial-Grade Solution Breaking Through Traditional Containerized Limitations

Guided by an engineering-first design philosophy, we have developed a rotary kiln system tailored to real-world industrial scenarios, completely breaking through the performance limitations of traditional containerized equipment. From initial installation and deployment to daily continuous operation, the entire process enables scalable, rapid implementation and simplified O&M, allowing low-carbon process solutions to be deployed and put into production immediately.



Integrated Modular Architecture

Adopts a compact containerized integrated structure, enabling convenient transportation and safe, rapid installation without complex on-site assembly. The system integrates complete feed and discharge processing units to ensure continuous and stable material flow. Featuring a self-contained enclosed design, it requires no additional auxiliary buildings such as workshops or canopies, significantly reducing deployment costs and timelines.



Distributed Flexible Deployment

Unrestricted by site constraints, it supports on-site deployment across most application scenarios. With a small footprint, it seamlessly integrates into customers' existing infrastructure and production lines without large-scale modifications. From equipment arrival to installation, commissioning, and production startup, the entire process takes only a few days, significantly shortening the project commissioning cycle.



Intelligent Simplified O&M

Equipped with a data-driven intelligent diagnostic system, supporting full-process remote monitoring and remote technical support. Designed for long-cycle continuous operation conditions, the equipment significantly reduces routine maintenance requirements and unplanned downtime. The system reserves standardized expansion interfaces, allowing flexible addition of optional auxiliary units such as FIBC (big bag) packing stations on demand to adapt to varying production requirements.

INPUT:
multiple carbon based waste



high quality,
versatile biochar

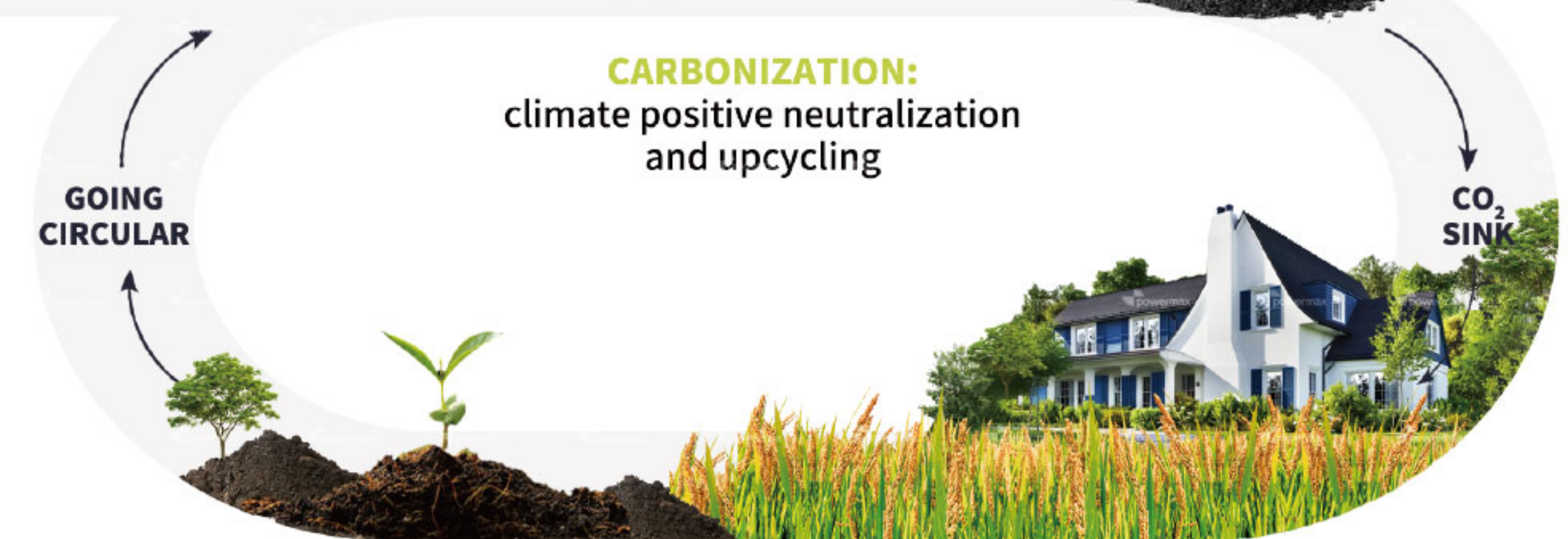


OUTPUT

CARBONIZATION:
climate positive neutralization
and upcycling

**GOING
CIRCULAR**

**CO₂
SINK**



CO₂ USE & STORAGE:
permanent sequestration & sustainable cycles



Partial oxidation is a thermochemical reaction process conducted under high-temperature, oxygen-deficient (insufficient oxygen supply) conditions. During this process, the fuel does not undergo a complete oxidation combustion reaction; instead, it is converted through incomplete combustion to primarily generate syngas, with carbon monoxide and hydrogen as its main components, rather than the final products of complete combustion such as carbon dioxide.

All-Scenario Adaptability | Industrial-Grade Reliability : Powermax Rotary Kiln System Deployment Solutions

In biomass carbonization and gasification project deployment, traditional containerized equipment often faces pain points such as high deployment thresholds, poor scenario adaptability, and high O&M costs, making it difficult to match the real production demands of scaled industrial scenarios. Guided by an engineering-oriented mindset, Powermax has developed a rotary kiln system that addresses industry pain points from the design source, achieving high-efficiency, convenience, and scalability across the full process—from installation and deployment to long-term continuous operation—enabling low-carbon process solutions to be rapidly deployed and put into production.



Prefabricated Fully-Integrated Modular

- Compact container format enables easy transport and secure installation
- Integrated feed and discharge handling for smooth material flow
- No extra structures or roofing needed thanks to the self-contained system design



Distributed On-Site Deployment Without Geographic Constraints

- Can be deployed virtually anywhere
- Fits seamlessly into existing infrastructure due to minimal space demand
- Fast installation and commissioning within just a few days



Intelligent Low-Burden O&M and Flexible Expansion

- Remote monitoring and support using data-driven diagnostics
- Long operating cycles minimize maintenance needs and downtime
- Easily expandable with optional components such as big-bag packing stations



Max Biochar Output **30%** Nearly Biochar Fixed Carbon **90%** Support **24H/7** Days

Your Partner in a Net-Zero Future.

ALLIANCE PARTNER



We are members of International Biochar Initiative (IBI), ANZ Biochar Industry Group (ANZBIG) and International Biomass Torrefaction and Carbonisation Council (IBTC).

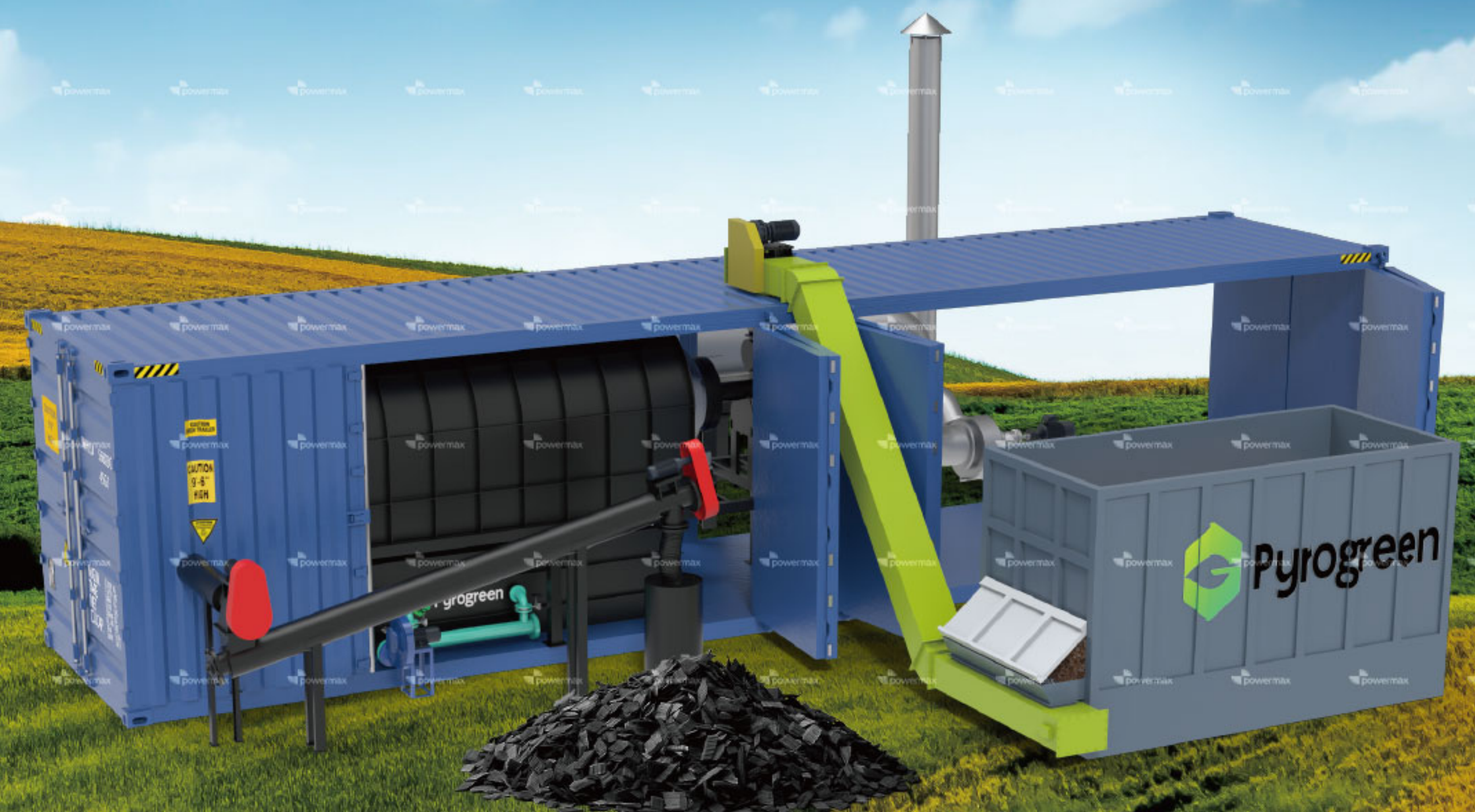
OFFICIAL PARTNER



DMRV SYSTEM PARTNER



We work with excellent dMRV suppliers to ensure precise tracking, integrity and transparency of our carbon credits.



FULL-CHAIN VALUE LOOP : FROM GREEN ENERGY TO CARBON-NEGATIVE RETURNS

Centered on biomass carbonization processes, the Pyrogreen technology establishes a full-chain value loop of "energy self-sufficiency – high-value products – carbon asset revenue". While achieving resource recovery from waste, it simultaneously unlocks triple value in environmental protection, economics, and climate governance, providing a mature, deployable, and replicable solution for scaled low-carbon transition.

Our plants reliably process diverse biomass feedstocks, including:

- Woody biomass and A4 waste wood
- Peels, seeds, and crop residues
- Animal manure on wood chips
- Sewage sludge and fermentation residues
- Sieve residues and more



Clean Green Energy Supply

The system achieves energy self-sufficiency across all operating conditions, while simultaneously producing surplus high-quality thermal energy. This can be consumed on-site for production and daily operations, or connected to the public grid for external supply. The biochar co-produced by the process holds high resource recovery value and can be widely applied in agriculture, building materials, environmental filtration, and other fields.

High-Value-Added Biochar Products

Leveraging its excellent physicochemical properties, biochar offers exceptional versatility. It can be applied as feed charcoal and soil enhancer in agriculture, and also serve as a construction additive or as activated-carbon filtration material in various industrial uses.

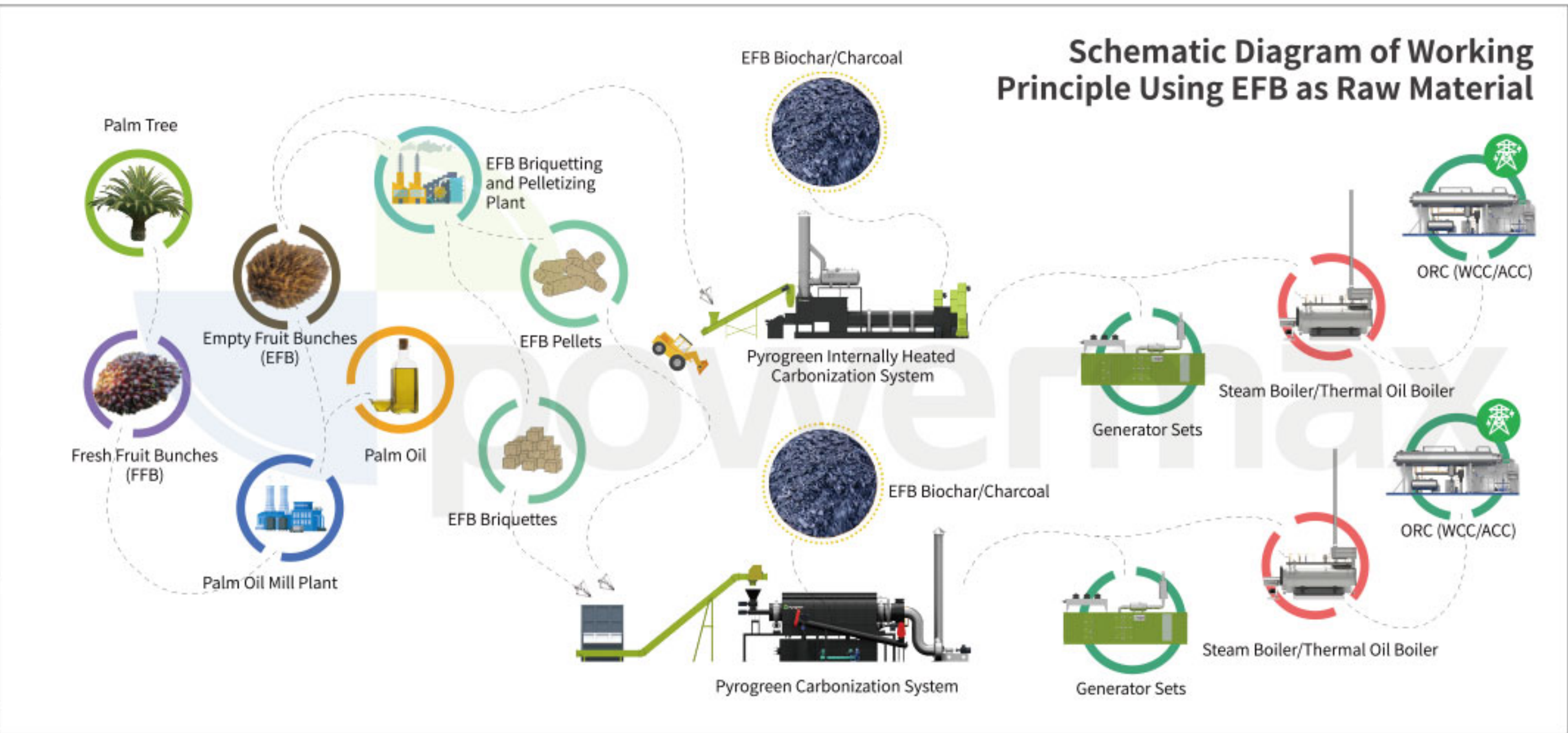


Compliant Carbon Removal Credit Assets

Our core technology not only reduces CO₂ emissions at the production source but also achieves ultra-long-term stable sequestration of CO₂ through biochar, with an effective sequestration duration of up to 1,000 years. This process-stabilized carbon can be certified through international compliant procedures into standardized carbon removal credits, directly providing quantifiable and verifiable implementation support for global climate governance goals.

TECHNICAL INSIGHT: What Exactly Are Carbon Removal Credits?

Unlike conventional CO₂ certificates—which are usually issued for achieving carbon neutrality—carbon removal credits are generated when a technology or process actively captures and stores CO₂. Instead of merely avoiding emissions, these solutions bind carbon that would otherwise remain in the atmosphere. Because of this, the resulting carbon footprint can go far below zero, offering a more substantial climate impact than carbon-neutral alternatives such as solar or wind power. In simple terms: carbon removal credits represent verified, long-term removal of CO₂ from the atmosphere, contributing directly to combating climate change.



FULL-SPECTRUM SOLUTIONS FOR BIOCHAR

Based on the Pyrogreen core biochar production technology, we have developed three major categories of biomass-based carbon material products, covering three core scenarios: clean fuel substitution, long-term carbon sequestration, and deep decarbonization of heavy industry. With graded product performance, they match the low-carbon transition and carbon-negative target requirements of different industries.

Product Category	Core Positioning	Fixed Carbon Content	Net Calorific Value (NCV)	Core Application Directions
Biocoal	Clean renewable alternative to fossil coal	20%-25%	19-20 MJ/Kg	Thermal power generation, biomass gasification
Biochar	Long-term carbon sequestration carbon-negative material	70%	N.A.	Soil amendment, carbon sequestration; IPCC-recognized negative emission technology pathway
Biocarbon	Core feedstock for deep decarbonization in heavy industry	80%-85%	25-30+ MJ/Kg	Steelmaking, non-ferrous metal & mineral production; replaces traditional metallurgical coke

BIOCOAL



Biocoal (torrefied pellets) is an ideal clean renewable alternative to traditional thermal fossil coal, enabling seamless direct replacement in existing coal-fired systems without large-scale equipment modifications. The product features high calorific value, excellent grindability, high storage stability, and low dust emissions. It significantly reduces greenhouse gas emissions at the source in thermal production processes, assisting thermal power and heating industries in achieving low-cost, low-carbon transitions.

BIOCHAR



Biochar is a globally validated long-term carbon sequestration solution that stably fixes carbon in soil or composite materials for hundreds of years, achieving long-term removal of atmospheric CO₂. This technology is recognized by the IPCC as one of the five core negative emission technologies. While achieving carbon sequestration, it can serve as a soil amendment to improve arable land quality, balancing ecological benefits and agricultural value.

BIOCARBON



Metallurgical biocarbon is specifically developed for the decarbonization needs of the metallurgical industry, serving as a low-carbon alternative feedstock to traditional coke and pulverized coal injection in steelmaking, non-ferrous metal, and mineral production processes. The product features excellent properties including high fixed carbon content, low ash content, and low mineral matter content. It significantly reduces carbon emissions in metallurgical production processes without affecting production efficiency, assisting hard-to-abate heavy industries in achieving deep decarbonization.

WHAT IS A CARBON CREDIT?



Carbon Emission Reduction

Reducing CO₂ and other GHG emissions from human activities to mitigate global warming, achieved through methods like energy substitution and energy efficiency. Taking Biowatt® as examples: The system use biomass as fuel. The carbon released during operation originates from CO₂ absorbed by biomass during growth (part of the contemporary carbon cycle), avoiding emissions of fossil carbon. This represents a typical renewable energy substitution and delivers effective carbon emission reduction.



Carbon Removal

A "Negative Emissions" technology that actively captures and permanently stores CO₂ from the atmosphere. Taking Biowatt®, and Pyrogreen® as examples: These biomass-based systems capture and store CO₂ through their operation and outputs. This includes biochar-based natural sequestration and engineered storage via CO₂ separation, compression, and injection into deep geological formations — known as BECCS (Bioenergy with Carbon Capture and Storage).

CARBON REMOVAL SERVICES

THE BASIC PROCESS OF CARBON REMOVAL SERVICES

01



Ensure your project is certifiable before investing

- Biomass eligibility check
- Methodology fit
- Storage & permanence classification
- Carbon credit estimation

02



Registration and audit preparation

- Choose the right registry
- Submit the required data
- Engage and negotiate with VVB

03



Carbon credit market analysis and credit sales

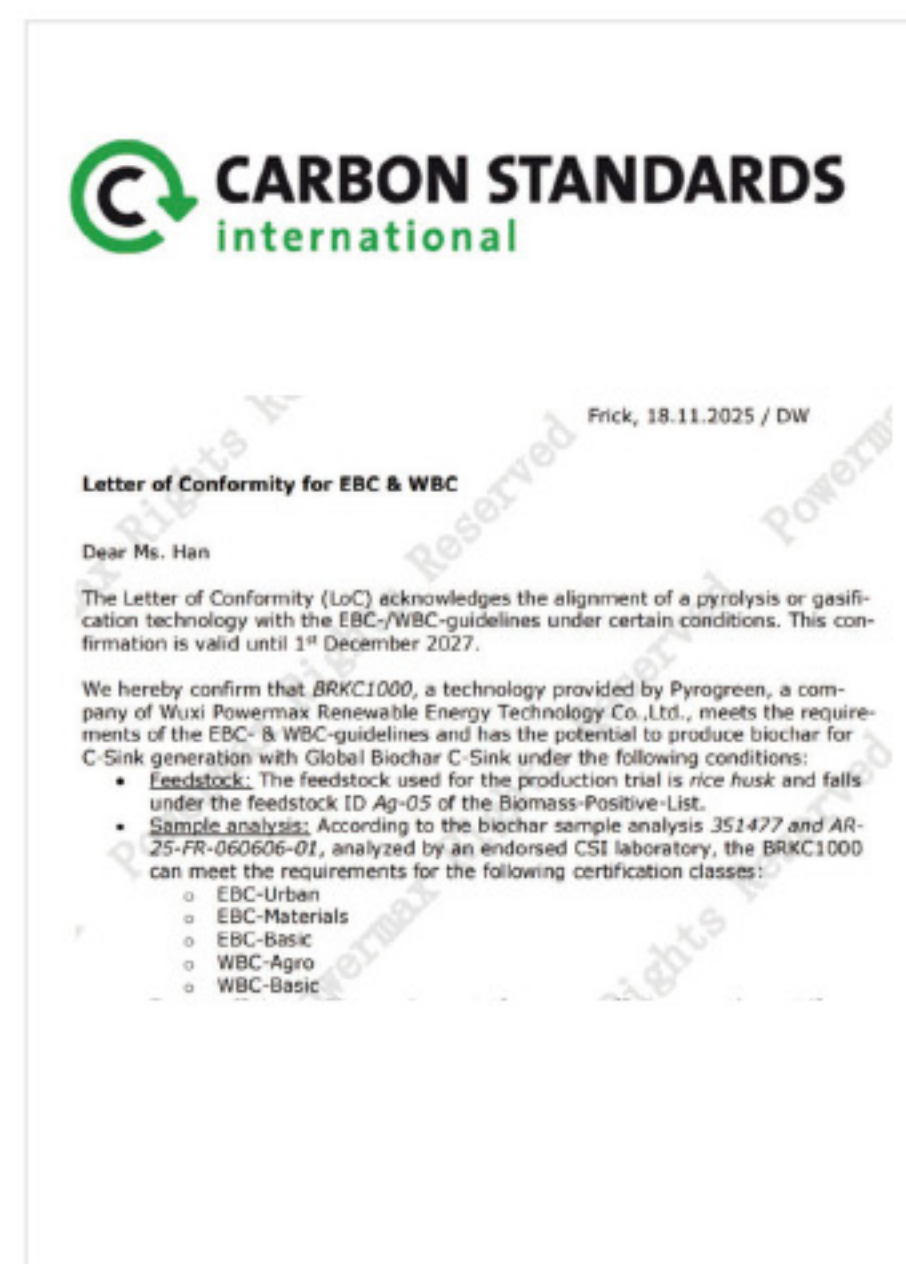
- Share the latest data and policies of the carbon credit market
- Offer market trend analysis and trading strategy recommendations
- Assist clients in connecting with carbon credit buyers
- Maximize value in the carbon credit market

WHY PYROGREEN DMRV?



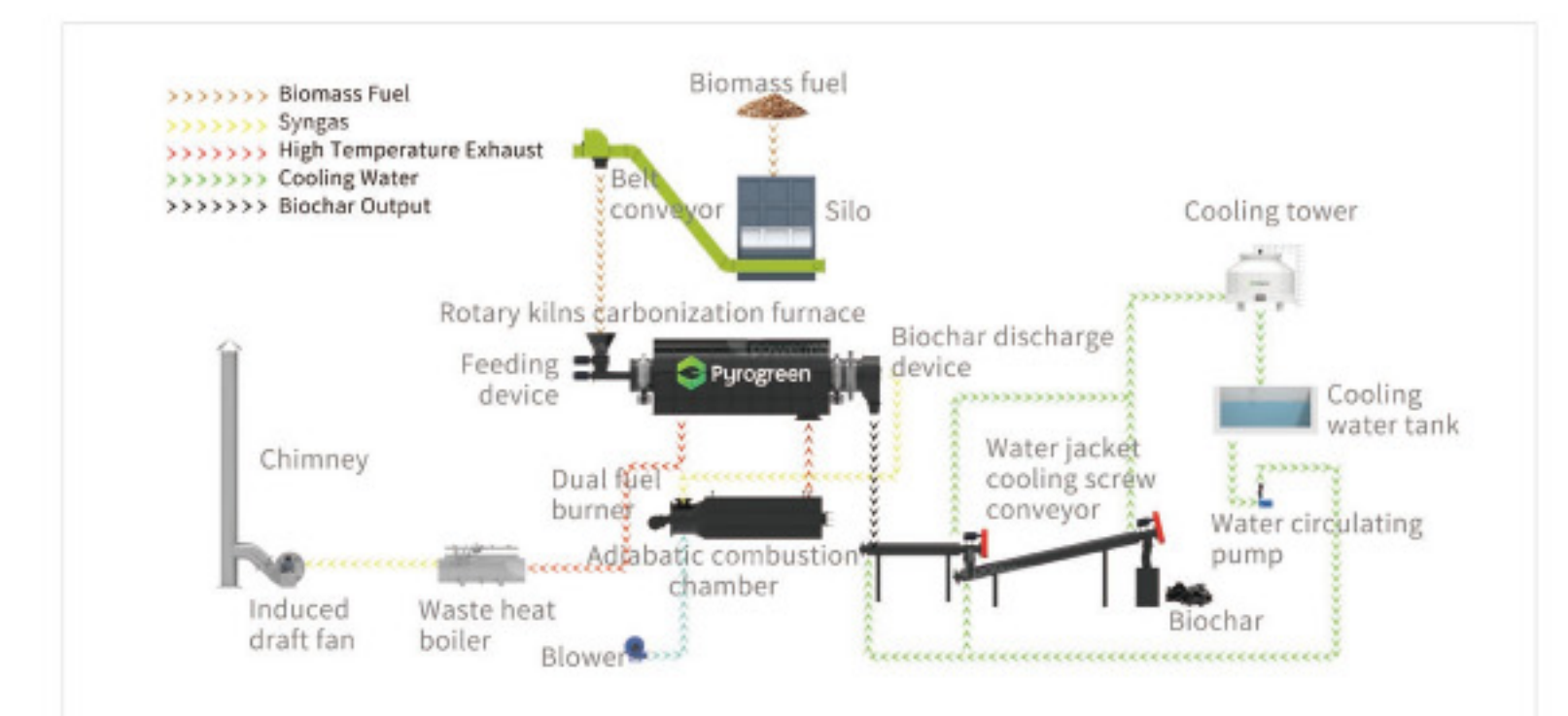
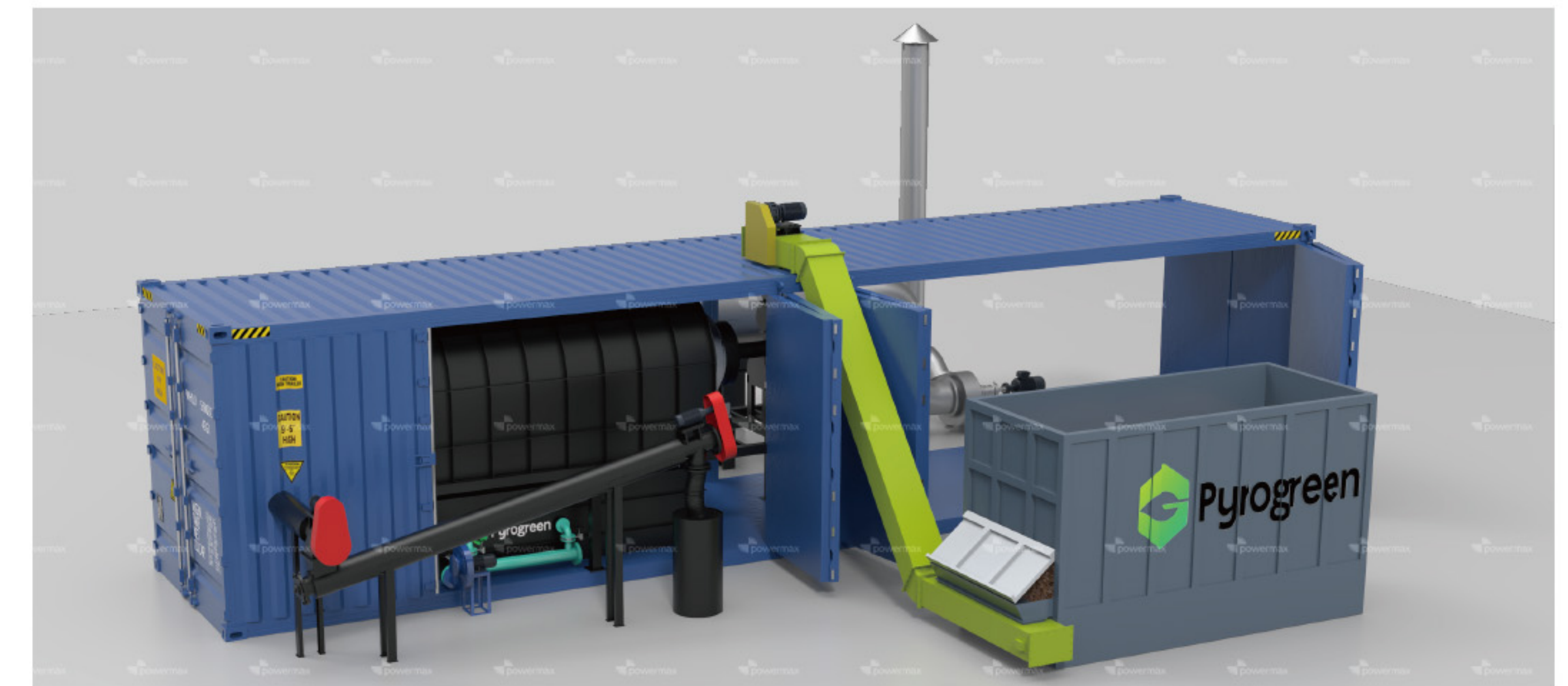
PYROGREEN'S CERTIFICATE

THE EQUIPMENT IS CERTIFIED BY CE, CSI AND ISOMETRIC.



PYROGREEN'S SOLUTION

BRKC SERIES CARBONIZATION SYSTEM

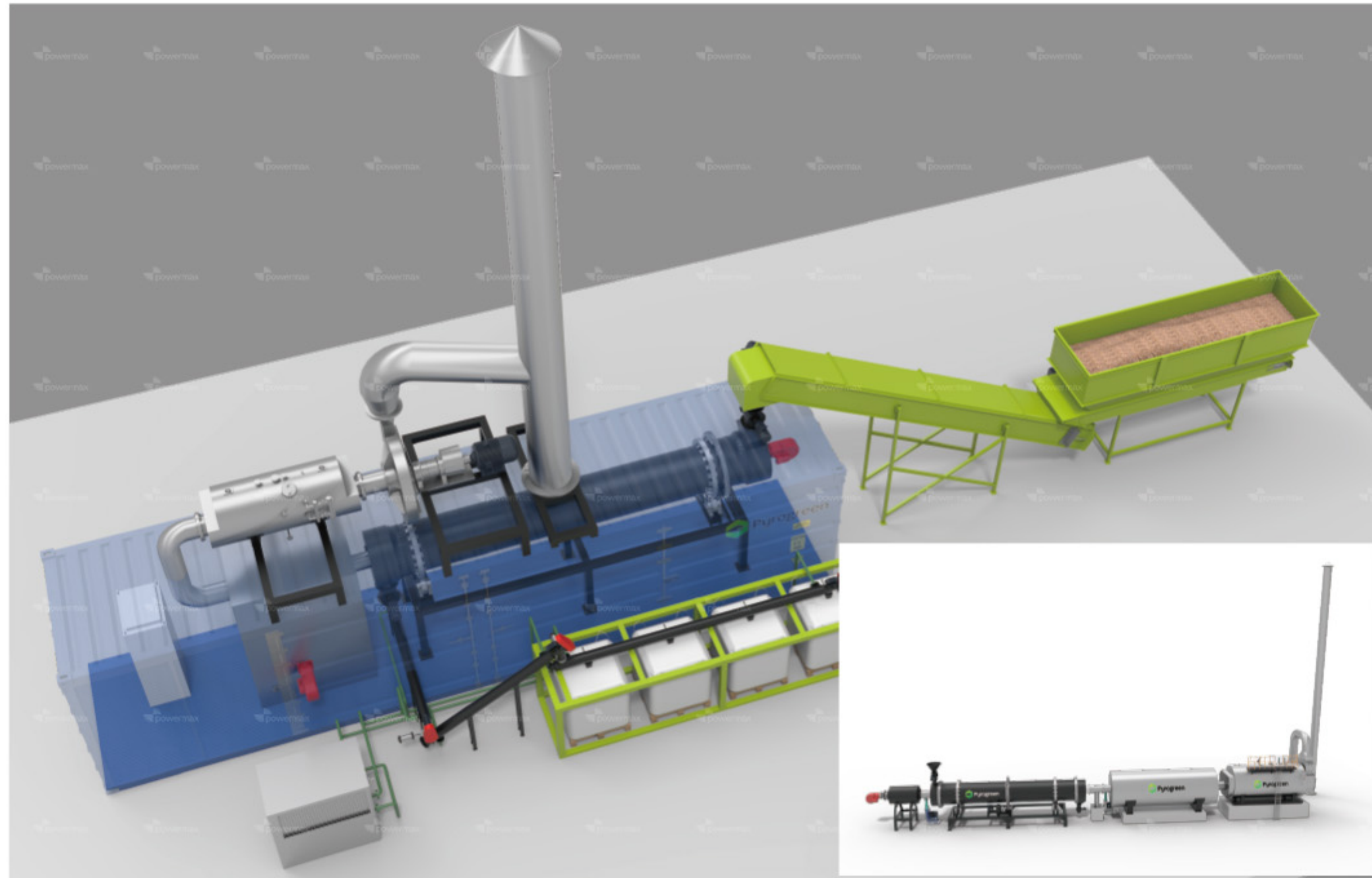


	BRKC600	BRKC1000	BRKC3500
Feed Rate	0.6m³/h(200kg)	1m³/h(300kg)	3.5m³/h(1T)
Footprint(L*H)	12m*10.5m	15m*10.5m	18m*12m
Working Mode	Continuous		
Feed Requirements	Size≤15mm, MC≤15%		
Construction	Indirect Heating Rotary Kilns Type		
Control Mode	PLC Control System		
Material	SS310S+SS304+Carbon Steel		
Pressure	Micro Negative Pressure		
Heating fuel	Diesel, natural gas, heavy oil, etc		
Heating Mode	Indirect Heating		
Noise(dB)	≤80		
Cooling Mode	Circulating Water Cooling		
Rotation Mode	External Gear Rotation		

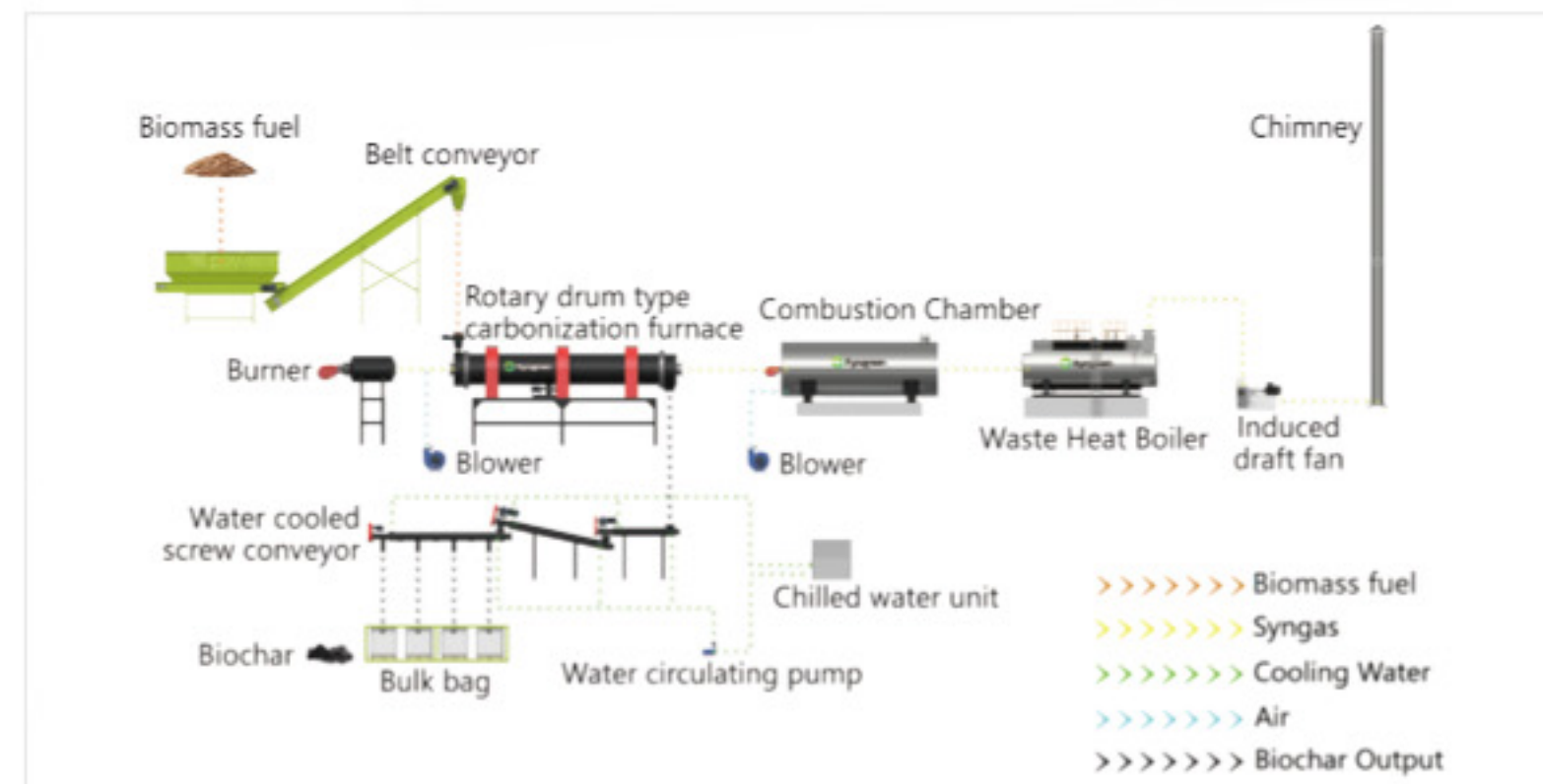
BRKC: Biomass Rotary Kilns Carbonizer

PYROGREEN'S SOLUTION

BRKC(IH) SERIES CARBONIZATION SYSTEM



 Suitable For Slightly Larger Raw Materials
≤50mm



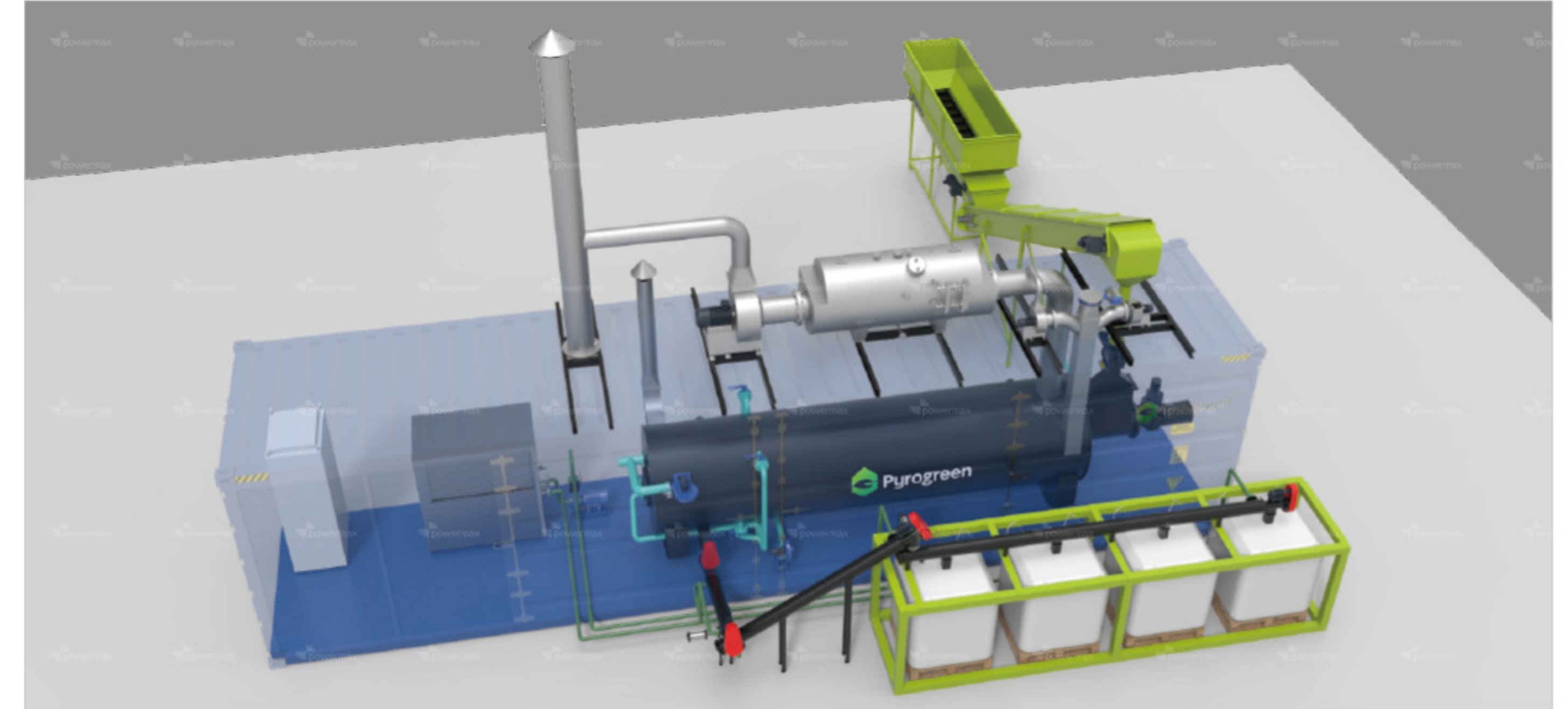
BRKC600(IH) BRKC1200(IH) BRKC2000(IH) BRKC4000(IH) BRKC6000(IH) BRKC8000(IH) BRKC10000(IH)

Feed Rate	300Kg/Hr	600Kg/Hr	1000Kg/Hr	2000Kg/Hr	3000Kg/Hr	4000Kg/Hr	5000Kg/Hr
Biochar Output	Max 30%	Max 30%	Max 30%	Max 30%	Max 30%	Max 30%	Max 30%
Boiler Capacity (T/H)	≤0.6	≤1.2	≤2	≤4	≤6	≤8	≤10

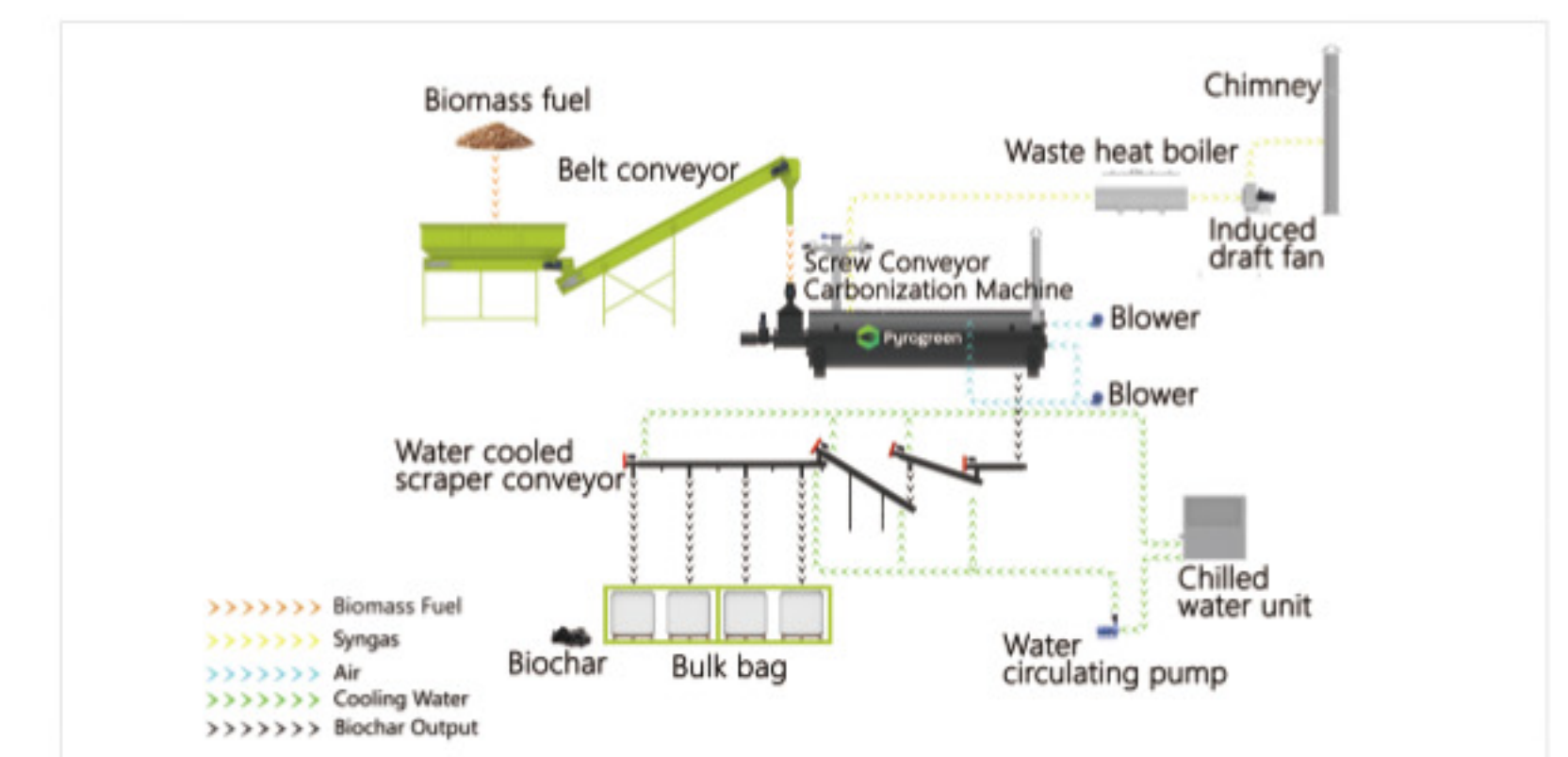
Note: If there are any deviations in the above data, please refer to the actual product and market conditions. The core components are all made of 310S.

PYROGREEN'S SOLUTION

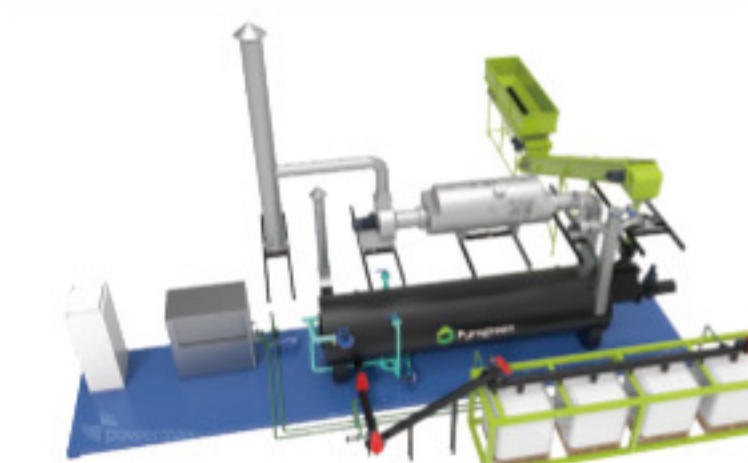
BSCC(IH) SERIES CARBONIZATION SYSTEM



 Suitable For Fine Raw Materials
≤20mm



BSSCC1000(IH)



BDSCC2000(IH)

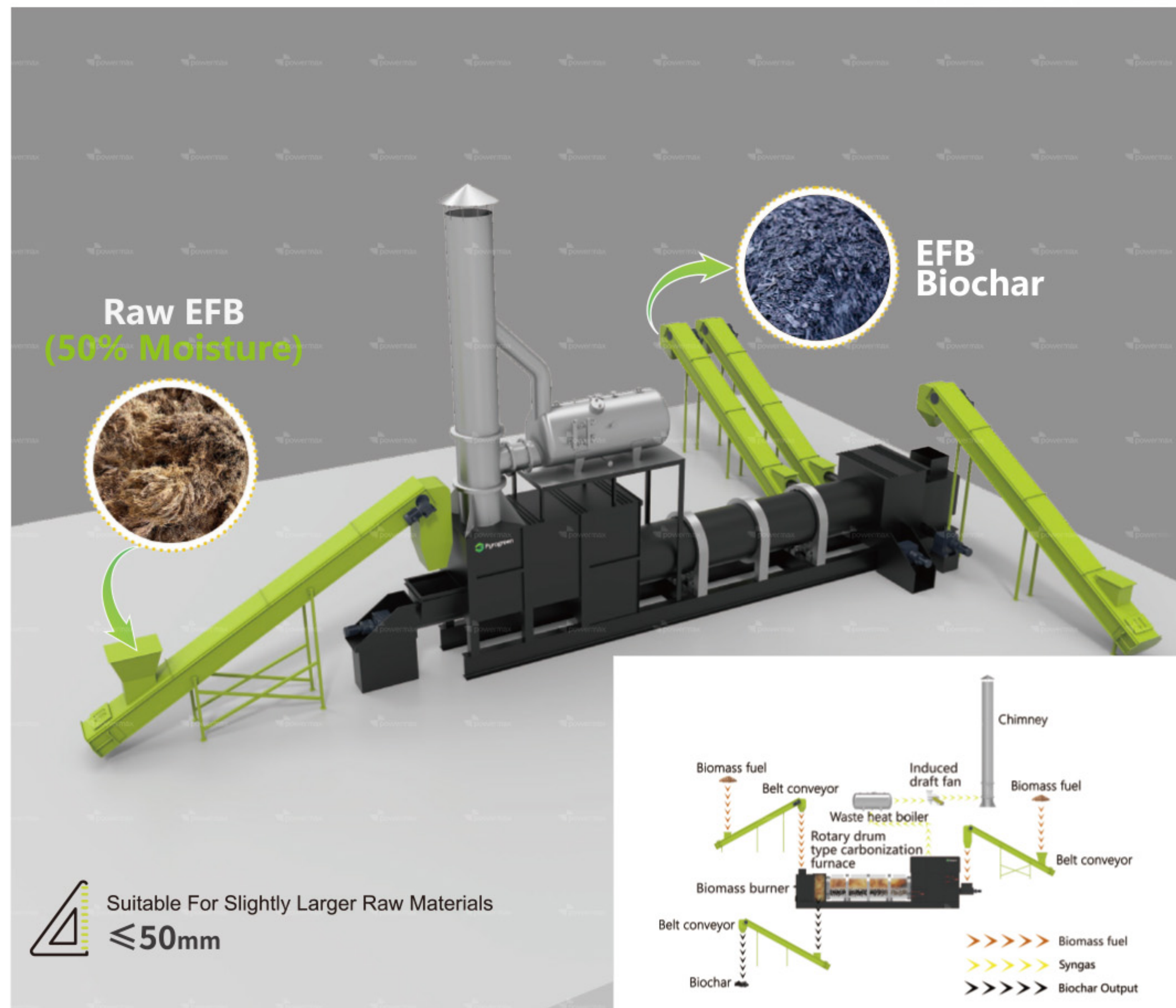


Feed Rate	150Kg/Hr	300Kg/Hr
Feed Requirements	Size≤20mm, MC≤15%	Size≤20mm, MC≤15%
Biochar Output	Max 30%	Max 30%
Inner shaft	Single-axis	Dual-axis

Note: If there are any deviations in the above data, please refer to the actual product and market conditions. The core components are all made of 310S.

PYROGREEN'S SOLUTION

BRKC(IC) SERIES CARBONIZATION SYSTEM



	BRKC1000(IC)	BRKC2000(IC)	BRKC3000(IC)	BRKC4000(IC)	BRKC6000(IC)	BRKC8000(IC)
Feed Rate	300Kg/Hr	500Kg/Hr	1500Kg/Hr	4000Kg/Hr	6000Kg/Hr	8000Kg/Hr
Footprint(L*H)	6*1.2m	11*1.2m	11.5*1.8m	15.3*2.4m	17.9*2.8m	20.2*3.2m
Pyrolysis Temperature (° C)	750-1100°C					
Biochar Output	18-25% (Depending on the properties of the raw materials)					

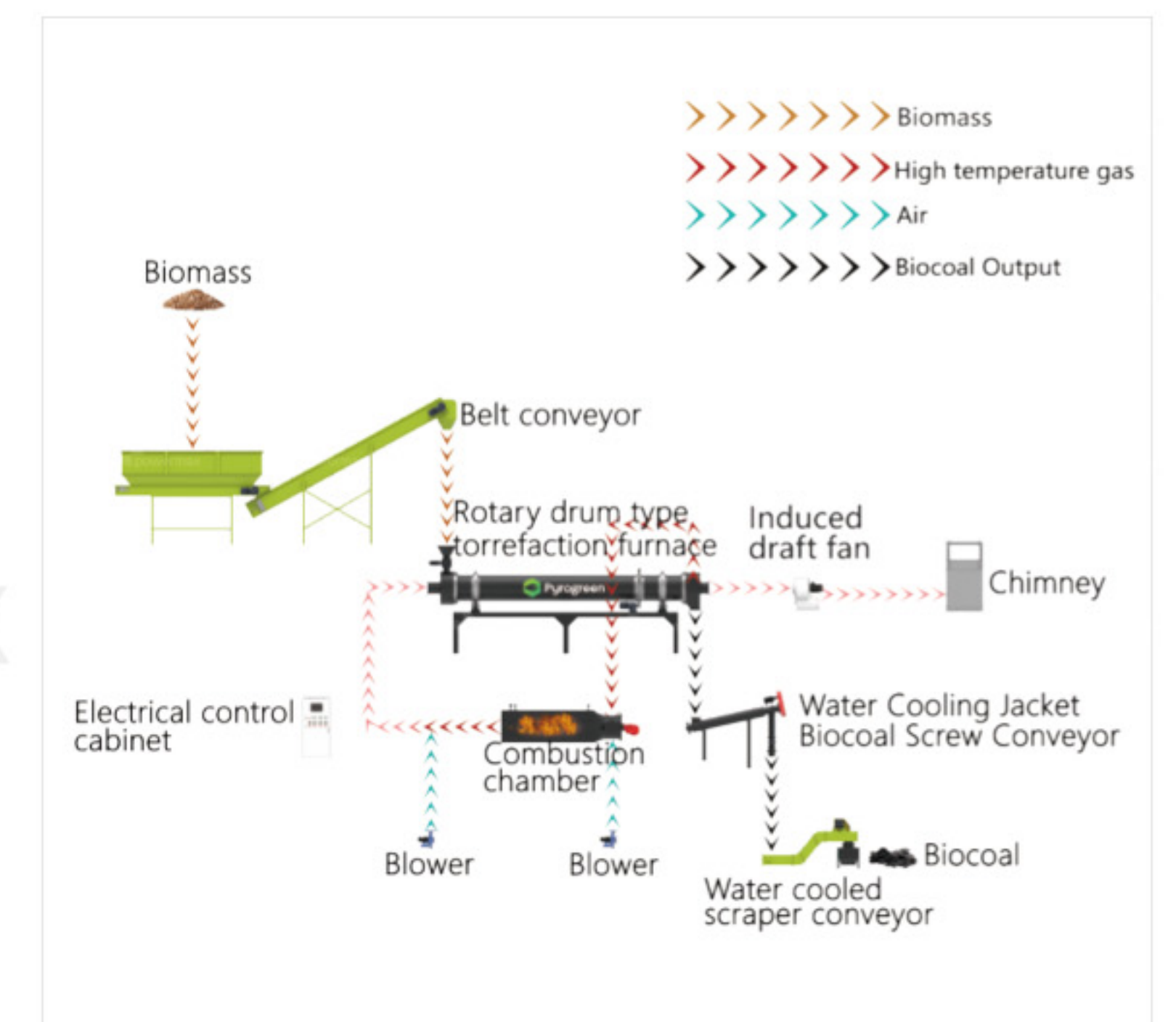
Note: If there are any deviations in the above data, please refer to the actual product and market conditions. The core components are all made of 310S.

PYROGREEN'S SOLUTION

BRKCTF(IH) SERIES TORREFACTION SYSTEM



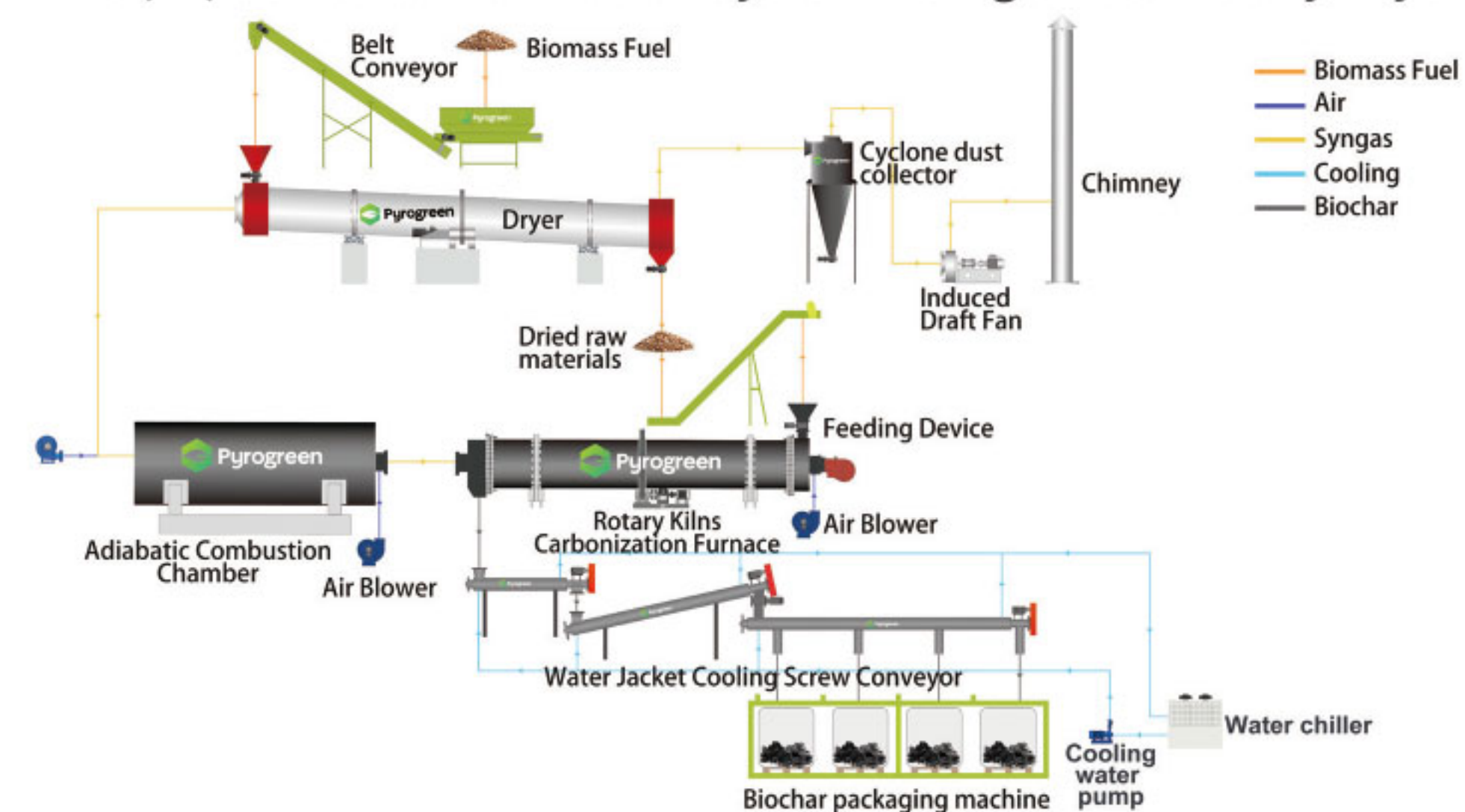
BRKCTF (IH)	
Feed Rate	1000-5000kg/Hr
Biocoal Output	70%
Working Mode	Continuous
Feed Requirements	Size≤20mm, MC≤15%
Construction	Indirect Heating Rotary Kilns Type
Control Mode	PLC Control System
Material	SS310S+Carbon Steel
Pressure	Micro Negative Pressure
Start Heating Fuel	Diesel, natural gas, heavy oil, etc
Heating Mode	Indirect Heating
Noise(dB)	≤80
Cooling Mode	Circulating Water Cooling
Rotation Mode	External Gear Rotation



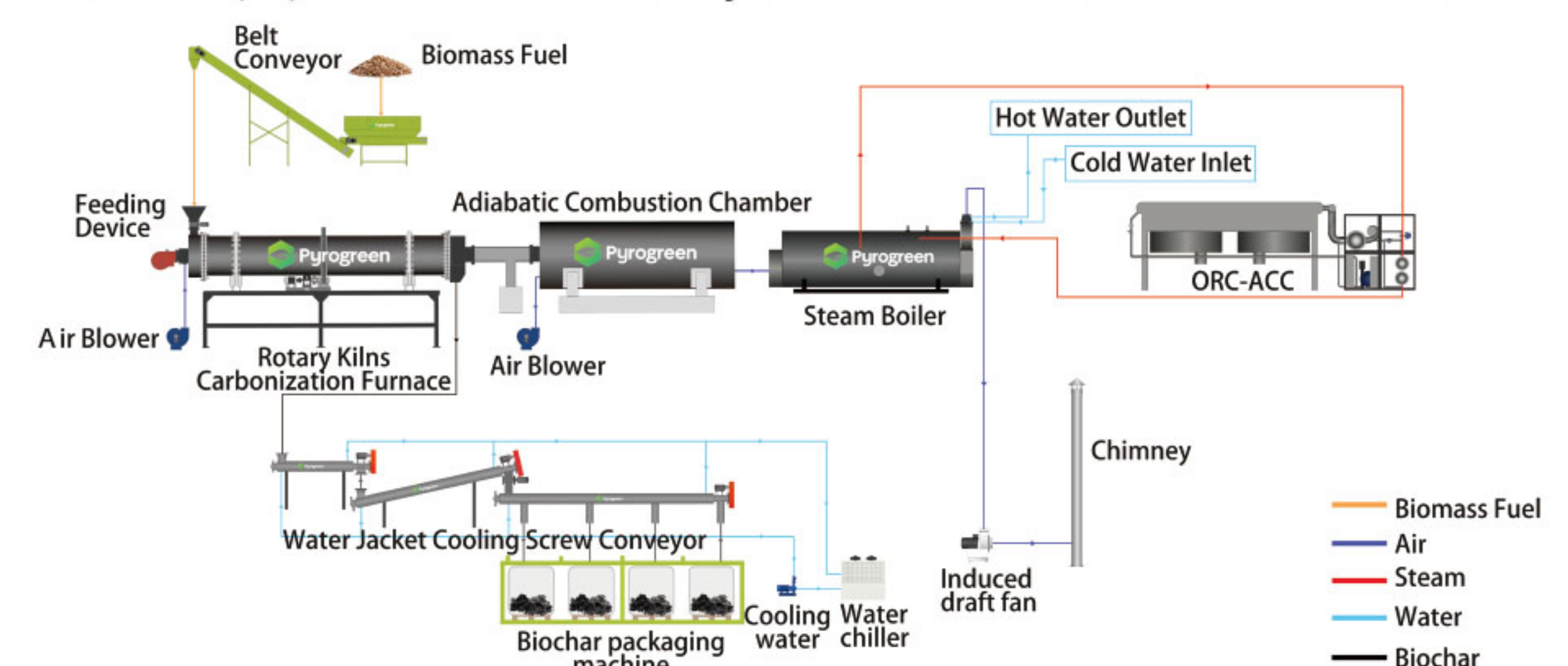
BRKCTF (IH): Biomass Rotary Kilns Carbonizer Torrefaction (Inner Indirect Heating)

MULTIPLE SOLUTIONS

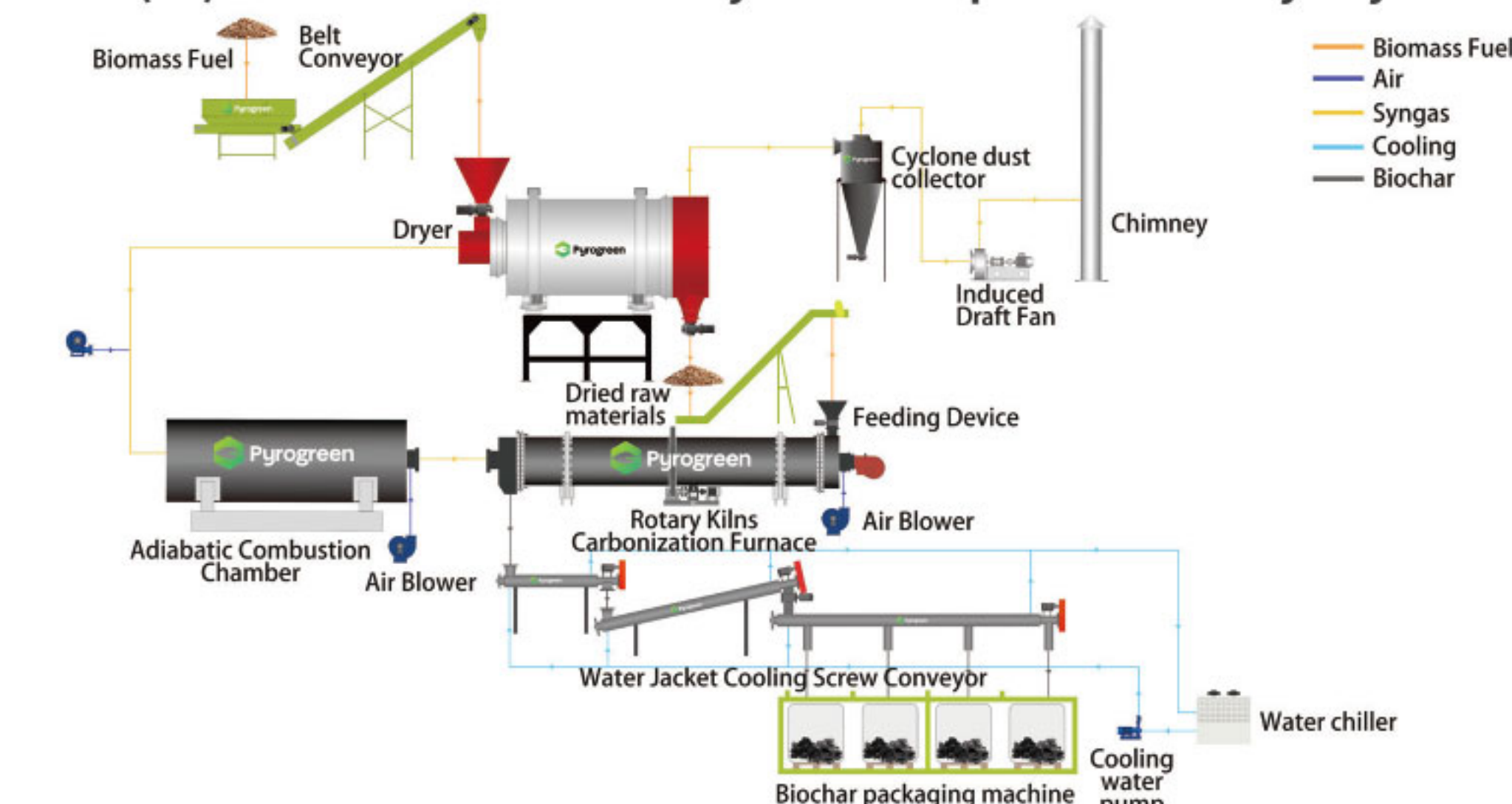
Solution for BRKC (IH) Series Carbonization System + Single Pass Rotary Dryer



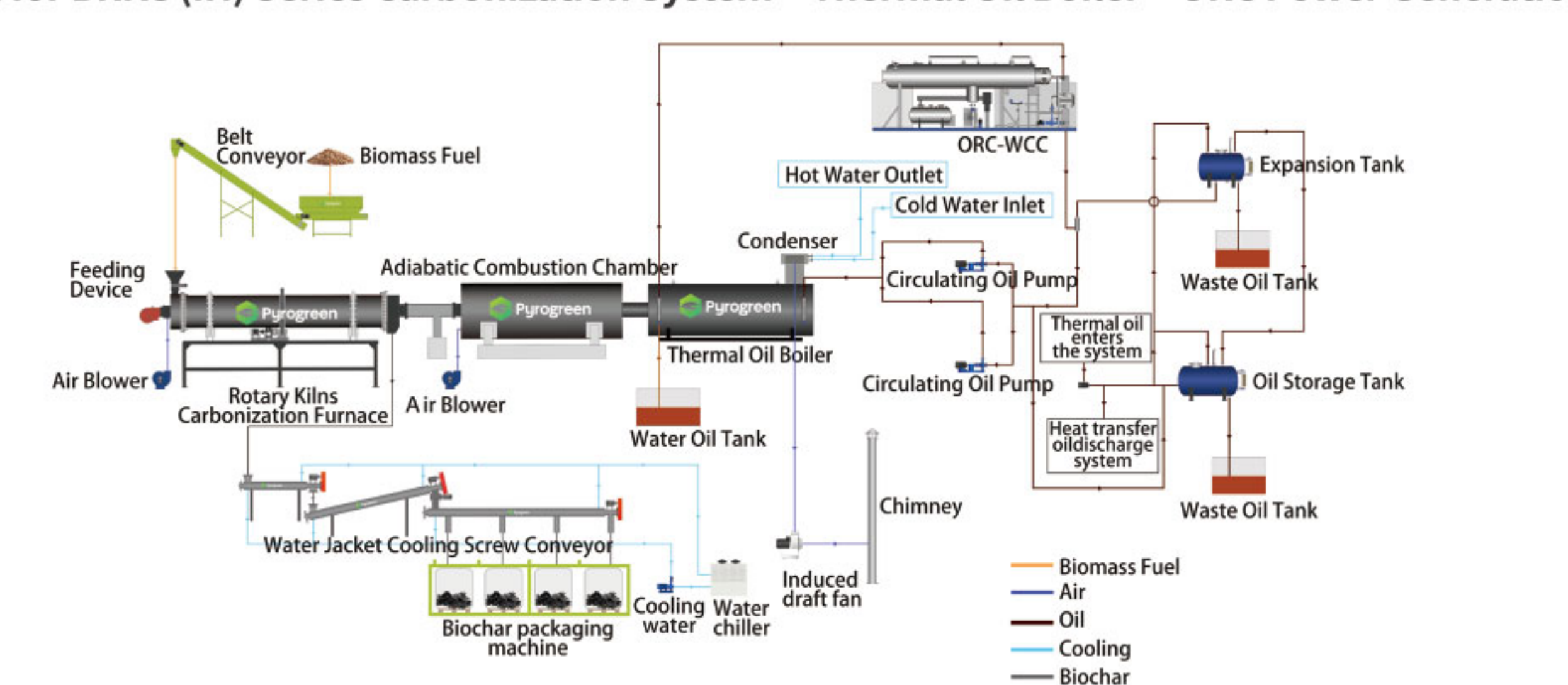
Solution for BRKC (IH) Series Carbonization System + Steam Boiler + ORC Power Generation



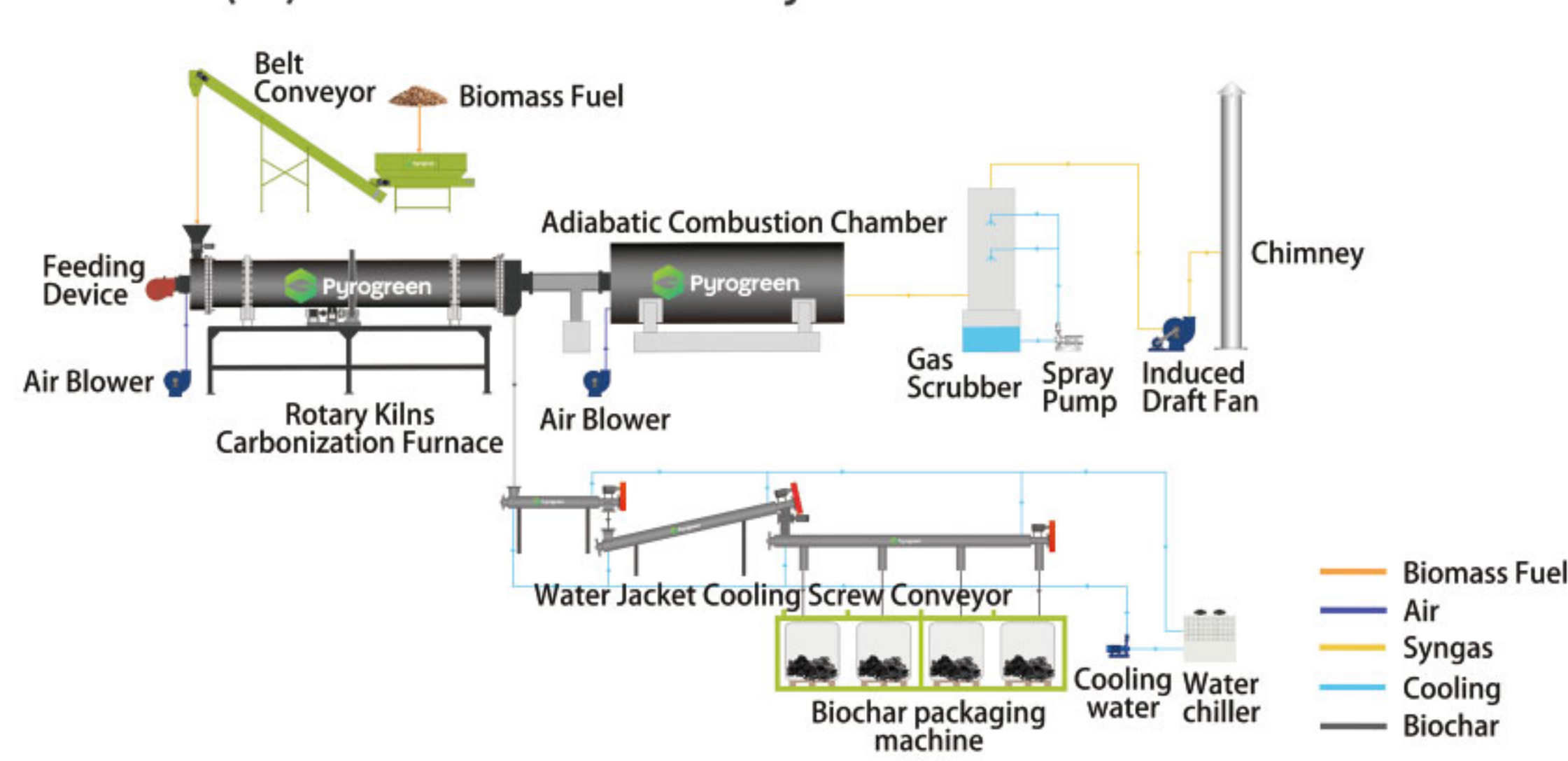
Solution for BRKC (IH) Series Carbonization System + Triple Pass Rotary Dryer



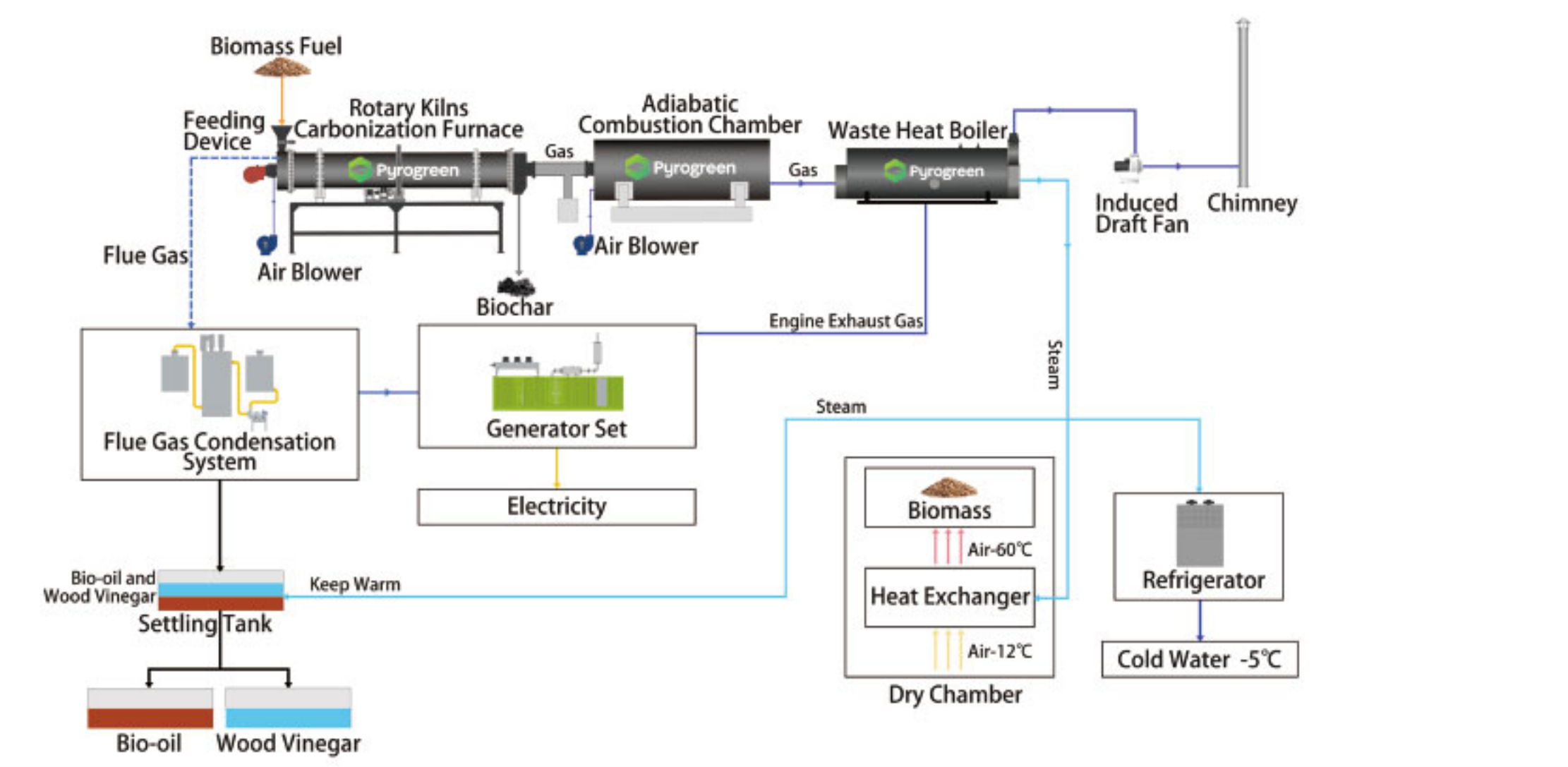
Solution for BRKC (IH) Series Carbonization System + Thermal Oil Boiler + ORC Power Generation



Solution for BRKC (IH) Series Carbonization System + Gas Scrubber



Solution for BRKC (IH) Series Carbonization System + Gas Cleaning Syetem + Gas Gensets + Low Temp Dryer



CREATING ADDED VALUE

Reducing waste, producing renewable energy are major challenges for today's industries. At Powermax, this is exactly where our work begins.

Our systems give new purpose to biomass residues, turning them into clean power and long-lasting carbon storage. The result? Real value for agriculture, local communities, energy providers, and industries that want to operate more responsibly. And the environment gains just as much.

After all, every ton of waste avoided and every unit of renewable energy produced contributes to a healthier climate. Isn't that the kind of progress we all want to see?

A success story? Absolutely. From Europe to regions across the world — Powermax solutions continue to show how practical technology can make a real difference for the planet.



FOLLOWING THE GLOBAL GOALS



With Pyrogreen, you meet an impressive 10 of the 15 UN Sustainable Development Goals

» PROJECT DISTRIBUTION



ASME U L CE



Carbon Asset Development Project
— 12MW Rice Husk Biomass Gasification Power Station in Myanmar

The Myanmar biomass gasification power station project involves the installation of twelve sets of Pyrogreen Energy's Powermax® DFBG equipment. The syngas is utilized for power generation, with high-quality biochar produced as a by-product, ultimately applied in aquaculture feed and agriculture.

Biomass Feedstock:	Rice husk, daily consumption approximately 518.4 tons.		
Annual Biochar Production:	Approximately 51,840 tons.	Estimated Annual Carbon Credits:	Approximately 45,000 tons.
CO ₂ Sequestration:	51,840t × 44/12 × 49% = 93,139.2 tons.	Estimated Annual Carbon Credit Revenue:	Approximately \$6,750,000.

Carbon Asset Development Project
— 3MW Wood Chip Biomass Gasification Power Station in Malaysia

The Malaysia 3MW biomass gasification power generation project involves the installation of two sets of Pyrogreen Energy's Powermax® TFBG equipment. The syngas is utilized for power generation, with high-quality biochar produced as a by-product, ultimately applied in agriculture.

Biomass Feedstock:	Wood chips, daily consumption approximately 77.6 tons.		
Annual Biochar Production:	Approximately 2,586 tons.	Estimated Annual Carbon Credits:	Approximately 3,600 tons.
CO ₂ Sequestration:	2,586t × 44/12 × 77% = 7,301.14 tons.	Estimated Annual Carbon Credit Revenue:	Approximately \$540,000.