



Green
Environmental Engineering
"TO BUILD A BETTER WORLD"



COMPANY PROFILE



Company Overview



Green Environmental Engineering (GEE) was founded with a strategic vision to deliver turnkey project management solutions across a broad spectrum of environmental green and renewable initiatives. Our expertise spans multiple sectors, including **activated carbon manufacturing and application systems, spent activated carbon reactivation, solid waste treatment, air pollution control, industrial effluent treatment, biomass and waste-to-energy facilities, material recovery systems and carbon capture technology.**

At GEE, we specialize in designing systems that foster industrial-environmental symbiosis, ensuring that our solutions not only meet your operational needs but also contribute to a sustainable future. We also supply consumables, chemicals, accessories, instrumentation and activated carbon products for industrial processes.

With offices strategically located in Malaysia and Singapore, we are well-positioned to serve our client across the region. Approach us to discuss how we can collaborate to achieve your environmental and sustainability goals.

Our Services



Measuring and Analysis

We specialize in analyzing profitability and operating costs, strategic planning and project design.



After-sales Services

We take effective remedial action to ensure customer satisfaction by resolving technical product faults and conducting inspections and regular maintenance.



Training

We provide tailored seminars and training programs focused on customers, industries, products and application.



Solid Waste Treatment System Design

GEE specializes in the engineering design of **incinerators** and **furnaces** for **municipal solid waste** and various types of **scheduled waste**. Our incineration solutions, powered by controlled burning, ensure the effective destruction of hazardous substances. Waste bulk and volume can be reduced by up to 85% and 95%, respectively. Our incinerators are available in various capacities and are also suitable for medical waste disposal, as well as animal and pet cremation. We manufacture only top-quality waste incinerators and incineration equipment for our clients. Additionally, we provide field installation, maintenance, and repair services. Let us be your solution for limited land disposal options and environmental pollution.



Figures above show Mechanical Grate Furnaces (daily capacity of 20 ton) which were built in 2014 for medical waste treatment in Zhanjiang.

Industrial Effluent Treatment System (IETS)

GEE offers a comprehensive consultation, design and build service for water management and industrial effluent treatment. Our solutions ensure that all discharges meet stringent local government regulations. Leveraging a deep reservoir of technical and application expertise, GEE tailors each project to the unique needs of our clients.



Our IETS Technologies Include:

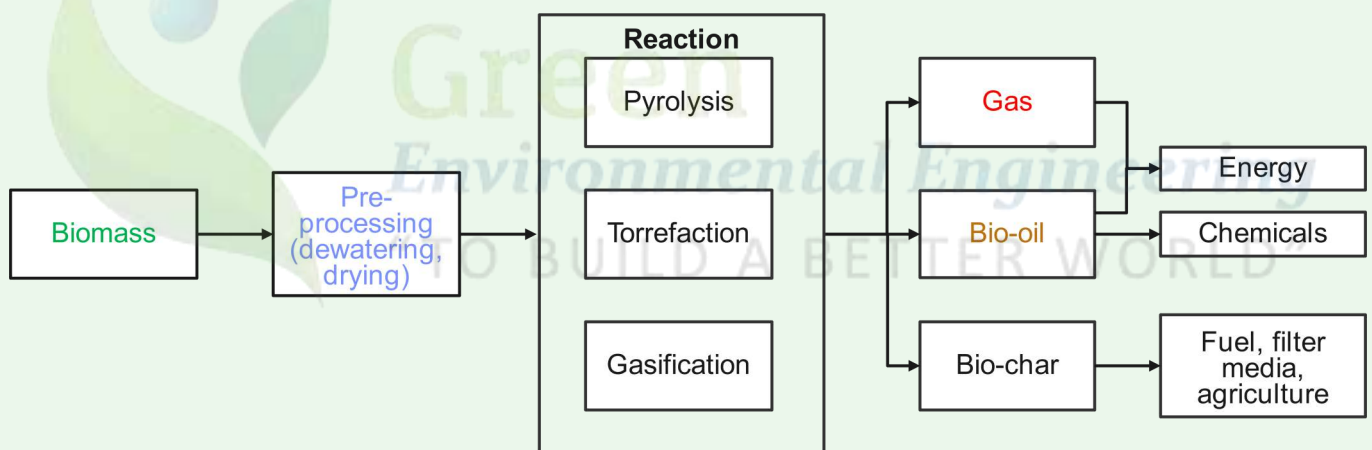
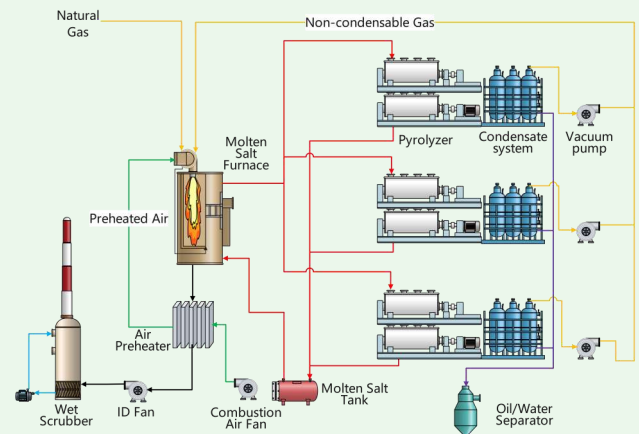
- ◆ Activated carbon polishing
- ◆ Ammoniacal nitrogen removal system
- ◆ Anaerobic digestion
- ◆ Biological treatment
- ◆ Chemical treatment
- ◆ Physical treatment
- ◆ Solid removal/ desludging process

Biomass to Material and Energy Recovery Facility

Specializing in the design and implementation of state-of-the-art biomass recovery facilities, GEE engineered solutions to convert biomass resources into renewable energy and materials through processes such as **pyrolysis**, **torrefaction**, **gasification** or their combination. Our team customizes the process to maximize the output of your desired end products (**gas**, **bio-oil** or **biochar**), offering turnkey solutions from concept development to successful commissioning.

Key benefits:

- ◆ Minimal labor reliance
- ◆ Tunable capacity
- ◆ Energy recovery
- ◆ Safe, stable, effective & reliable operation



Pilot Testing and Laboratory Analysis

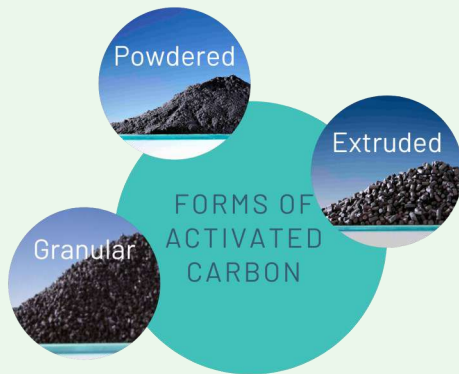
GEE provides laboratory-scale analysis services aimed at determining the characteristics and performance of activated carbon as well as accessing its reactivation potential. Additionally, we offer our expertise in building and establishing pilot plants to showcase the feasibility of the proposed solutions and technologies.

Testing parameters include:

- ◆ Adsorption Isotherm Testing
- ◆ Column Testing
- ◆ Iodine number Analysis
- ◆ Physicochemical properties characterization
(SEM-EDS, XRD, BET, TGA, FT-IR)



Activated Carbon Filter and Absorber



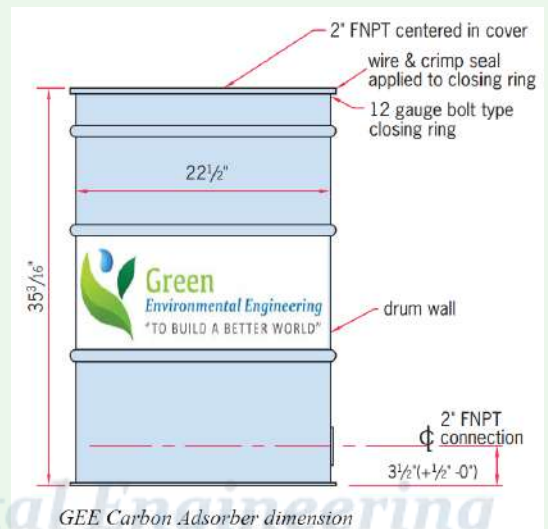
APPLICATIONS OF ACTIVATED CARBON

- ◆ Municipal Water Treatment
- ◆ Environmental Water Treatment
- ◆ Environmental Air Treatment
- ◆ Food & Beverages
- ◆ Industrial Process

GEE Carbon Adsorber is a full-scale adsorption system into a single container, effectively treat a wide range of emissions, with a particular focus on **volatile compounds requiring odor treatment**.

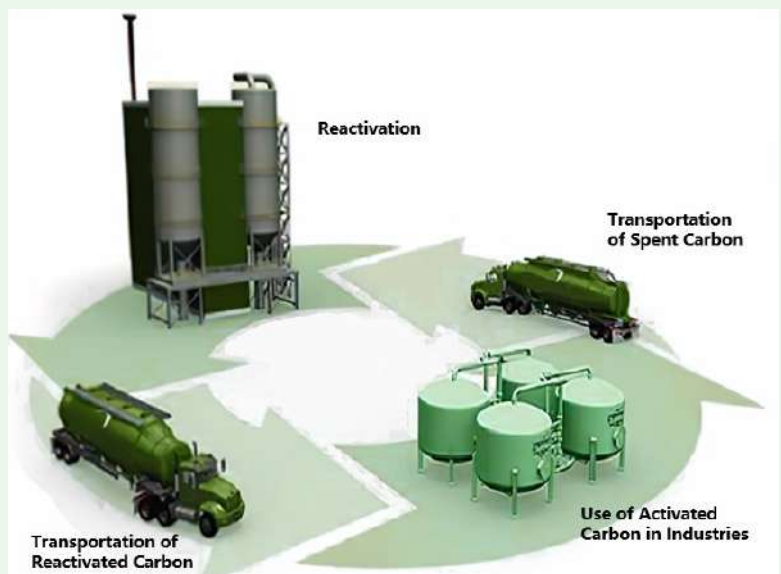
Benefits:

- ◆ Mobile, simple installation and operation
- ◆ Optimal design for cost-effective results
- ◆ Easy to maintain, reusable unit with only activated carbon replacement required
- ◆ Corrosion resistance
- ◆ Flexibility for diverse demands
- ◆ Continuous treatment at varying flowrates and concentrations



Spent Activated Carbon Reactivation Service

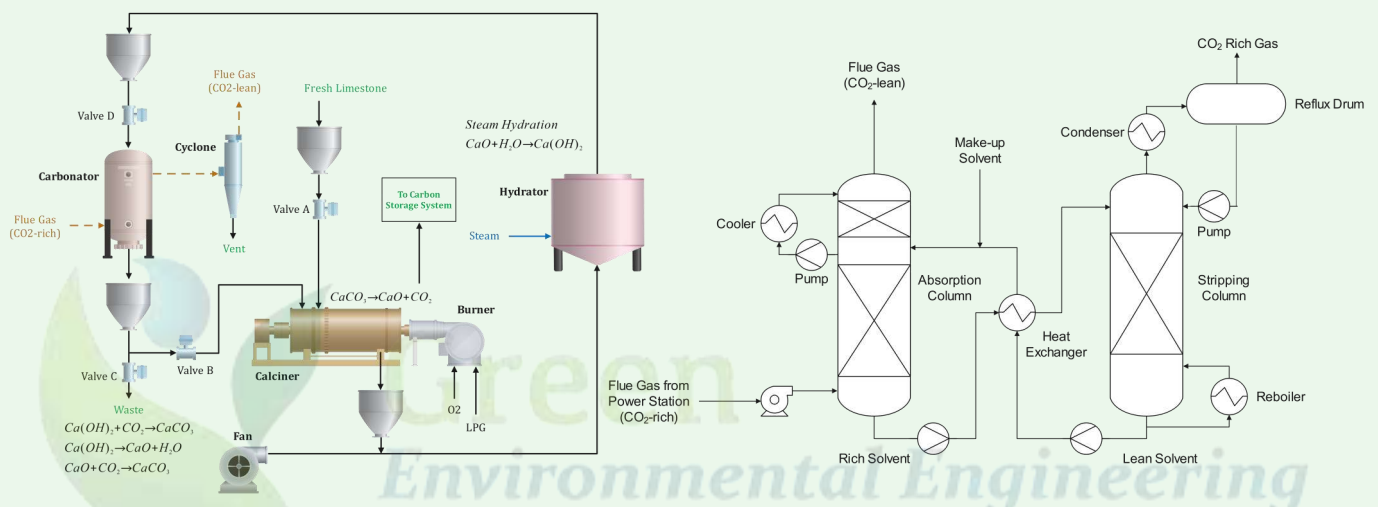
- ◆ Leverage GEE's expertise in reactivation technology to maximize sustainability in your operations.
- ◆ Transform your spent activated carbon into a valuable resource instead of disposing of it as scheduled waste.
- ◆ Reduce your environmental footprint through our reactivation service.
- ◆ Align your operations with the principles of the circular economy by turning waste from one process into input for another.



Carbon Capture System: Post Combustion Capture (PCC) Technology

GEE specializes in optimizing carbon capture for seamless integration with existing industrial plants or new projects. Our PCC technology is designed to efficiently separate and collect CO₂ from flue gas emissions generated during industrial production. Notably flexible, our technology is ideal for retrofitting existing plants with minor modifications, ensuring cost-effective and streamlined implementation. We offer two advanced process flows, tailored to suit the specific needs and compatibility of your operations:

1. **Calcium Looping:** A proven method that uses calcium-based materials to capture and release CO₂ through a cyclic process.
2. **Mixed Solvent Process:** A robust approach utilizing a blend of solvents to enhance CO₂



GEE assists companies nationwide register for verified carbon credits. These surplus credits can be traded with firms unable to meet their emission targets, transforming environmental responsibility into a profitable opportunity while contributing to environmental conservation.

Dust Collector

TYPES OF DUST COLLECTORS

- ◆ Pulse Jet
- ◆ Shaker
- ◆ Cartridge
- ◆ Cyclone
- ◆ Bench
- ◆ Portable



DUST COLLECTOR APPLICATIONS

- ◆ **Automotive Service** — Shot Blasting, Powder Coating, Foundry Activities, Welding, CNC Machining
- ◆ **Metal & Machining** — Abrasive Blasting, Wire Wheels, Sanding, Belts, Grinding, Wheels
- ◆ **Pharmaceuticals & Chemicals** — Crushing, Milling, Screening, Mixing, Pelletizing, Coating, Compressing, Weighing, Packaging Processes
- ◆ **Other Applications** — Aerospace, Agriculture, Waste & Recycling, Manufacturing, Food & Beverage, Electronics, Power Generation.

Project Reference

Spent Activated Carbon Reactivation System

Location: Singapore

Client: ECO Norit Activated Carbon Pte. Ltd.

Daily Capacity: 6 - 8 ton/day

Year of Completion: 2020

Description: The processes involved are carbon adsorption, reactivation, complete flue gas treatment, and packaging system. Recycling spent activated carbon helps reduce costs.



Air Pollution Control System (Dust Collector)

Location: Malaysia

Client: Nautec Materials Sdn Bhd

Year of Completion: 2022

Description: Completed installation of a new dust collector, including DOE submission.



Wastewater Treatment System

Location: Singapore

Client: ExxonMobil Singapore

Year of Completion: 2022

Description: Activated carbon filter is used in final polishing stage of the wastewater treatment system to further reduce the COD to meet the discharge standard.



MSW Incineration Power Plant

Location: China

Client: Anhui Xuancheng Municipal Waste Incineration Power Plant

Daily Capacity: 400 ton/day

Year of Completion: 2018

Description: The waste-to-energy plant incinerates MSW to produce heat and generate electricity.





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