

COMPANY PROFILE



PT. CENTRA REKAYASA ENVIRO

ENGLISH VERSION

Updated: October 2024



Centra Rekayasa Enviro

PT. Centra Rekayasa Enviro

Engineering Solutions for Our Environment, Industry and Community

www.cr-enviro.com

OUR TEAM MEMBER

WHO WE ARE

LEADERSHIP



DIMAS SATYA LESMANA S.T., M.B.A.
PRESIDENT DIRECTOR

✉ dimas@cr-enviro.com
☎ 0811-110-3650



IR. DEDE IRSAD M.M.B.A.T.
OPERATIONAL DIRECTOR

✉ dede.irsad@cr-enviro.com
☎ 0811-2060-180



IR. HARI RACHMAT
SALES & ENGINEERING DIRECTOR

✉ hari.rachmat@cr-enviro.com
☎ 0812-2122-6727



MAX WILLIAM LAWENDATU S.E.
FINANCE & HR DIRECTOR

✉ max.lawendatu@cr-enviro.com
☎ 0812-2122-6727

TEAM MEMBER

06

Engineer

05

Admin

02

Drafter

10

Helper

06

Welder

05

Support



VISION & MISSION

CORPORATE VISION.

Think global and act local.

PT. Centra Rekayasa Enviro has a vision to be a world class company that professional and reliable in the field of Environmental Engineering and Renewable Energy with sustainable growth and capable of creating comprehensive job employment in the entire region where our company operates.

CORPORATE MISSION.

To provide the best products and services to our customers by providing clean renewable energy and engineering solutions for the environment, industry and the community around us.

CORPORATE CORE VALUES



Our core values is the heart of our organization. We operated and taking action and decision based on our corporate core values.

Below is our three core values which represent our initial company name C-R-E:

- **C – Continuous Development and Improvement**
- **R – Right First Time**
- **E – Effective and Efficient Through Reliable Management System and Excellent Team Work**



WHO ARE WE

CONNECTING YOUR BUSINESS TO THE RESOURCES YOU NEED

PT Centra Rekayasa Enviro is a fully owned private EPCI enterprise based in Bandung and have the core business in Environmental Engineering, Waste Engineering, Waste to Energy, Civil Mechanical and Electrical Engineering, Pipeline Integrity, Operation and Maintenance Service, Trading and Consulting.

We provide integrated services backed up by excellent teamwork and committed with customer success.

PT. Centra Rekayasa Enviro has a vision to be a world class company that professional and reliable in the field of Environmental Engineering and Renewable Energy with sustainable growth and capable of creating comprehensive job employment in the entire region where our company operates.

Our mission is to provide the best products and services to our customers by providing engineering solutions for the environment, industry and the community around us.



SCOPE OF SERVICES



PT Centra Rekayasa Enviro is an ISO 9001:2015 Certified Company and a fully owned private EPCI enterprise based in Bandung and have the core business in providing high quality environmental and waste management equipment.

Our scope of service:

- **EPCI & Fabrication**
- **Civil Mechanical Electrical Engineering**
- **Environmental Engineering**
- **Waste Engineering**
- **Waste to Energy**
- **Operation and Maintenance**
- **Consulting**
- **Trading**

ENGINEERING SERVICES



ENGINEERING AND FABRICATION SERVICES

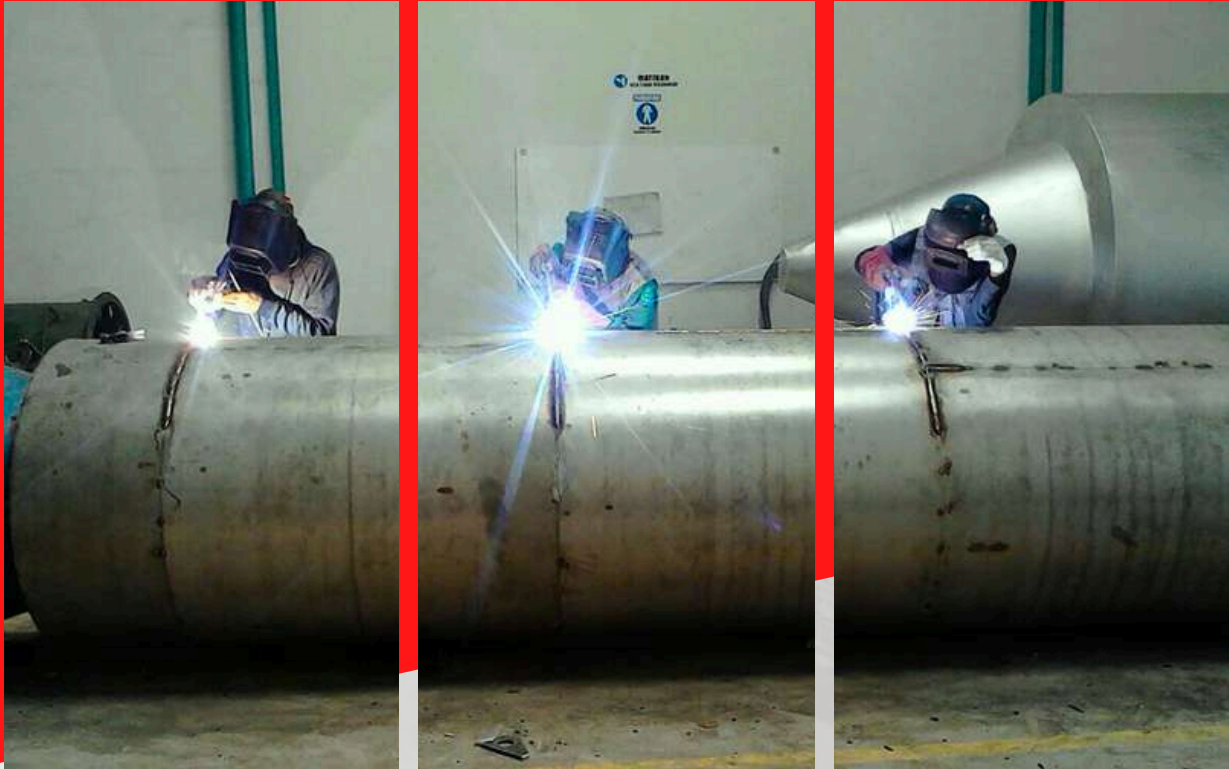
We can assist your organization to develop a sustainable and practical engineering and fabrication service which could make improvement program that will deliver real change within and improve how resources are managed.

ENGINEERING SERVICES

Our Engineering division will provide our client with the most sophisticated resources for clients requirement. Which includes:

- Basic Concept and Business Plan (BP)
- Feasibility Study (FS)
- Site Plan (SP)
- Detailed Engineering Design (DED)

FABRICATION SERVICES



WASTE EQUIPMENT FABRICATION SERVICES

With the fabrication as one of our service, we provide the following solutions for Environmental and Waste Engineering solutions:

- Waste Water Treatment Plant (WWTP) using latest technology such as Electrocoagulation (EC), Carbon Filter, Reverse Osmosis, Bacterial and Chemical Treatment etc
- Incinerator Fabrication and Installation including it's operation and maintenance services.
- Shredder and Crusher
- Column Distillation
- Etc

INTEGRATED SOLUTIONS

CONNECTING YOUR BUSINESS TO THE RESOURCES YOU NEED

Providing a sustainable engineering and energy solutions is a complex part of PT. Centra Rekayasa Enviro commitment. Backed up with excellent team work and comprehensive experience, we provide world class services to all of our customer requirement.

Our Commitment:

Customer Success and Full Traceability

Our Services includes:

- Development and Fabrication of Waste Management System
- Equipment such as Waste Water Treatment Plant, Incinerator,
- Crusher, Shredder, Solvent Distillation, etc
- Risk Assessment and Mitigation of Waste
- Auditing for Compliance with Local and International Law
- Pipeline Integrity services
- Consulting for Waste Management
- Training for Manpower
- Staffing and Outsourcing





ISO Certificates





ADVANCED SMART INCINERATOR TECHNOLOGY



THE MOST ADVANCED INCINERATOR TECHNOLOGY IN INDONESIA

Setting the Standard in Incinerator & Thermal Equipment



CRE is a leading manufacturer and installer of incinerator equipment in Indonesia.

Our high quality incineration equipment products offer solutions for managing domestic, hazardous and medical waste and our reputation of innovation and manufacturing excellence is recognized through numerous awards.



In response to the challenge of achieving consistently high performance against an ever tighter regulation in the incineration industry, more professionals and customers trust CRE to deliver on our promise to set the standard in incineration and thermal equipment in Indonesia.

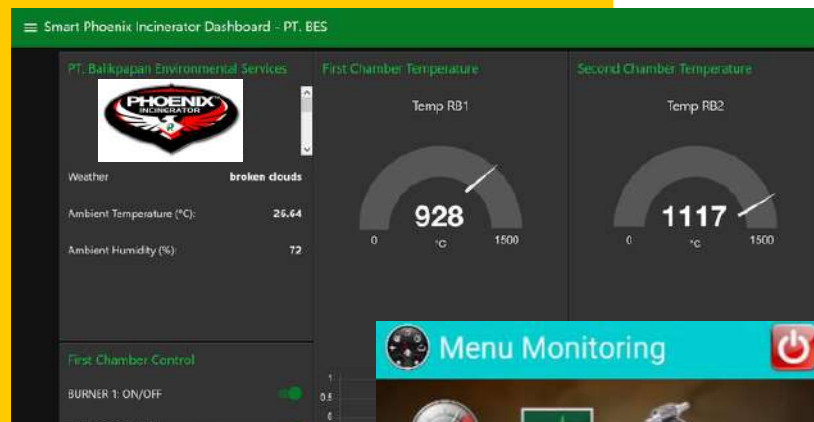
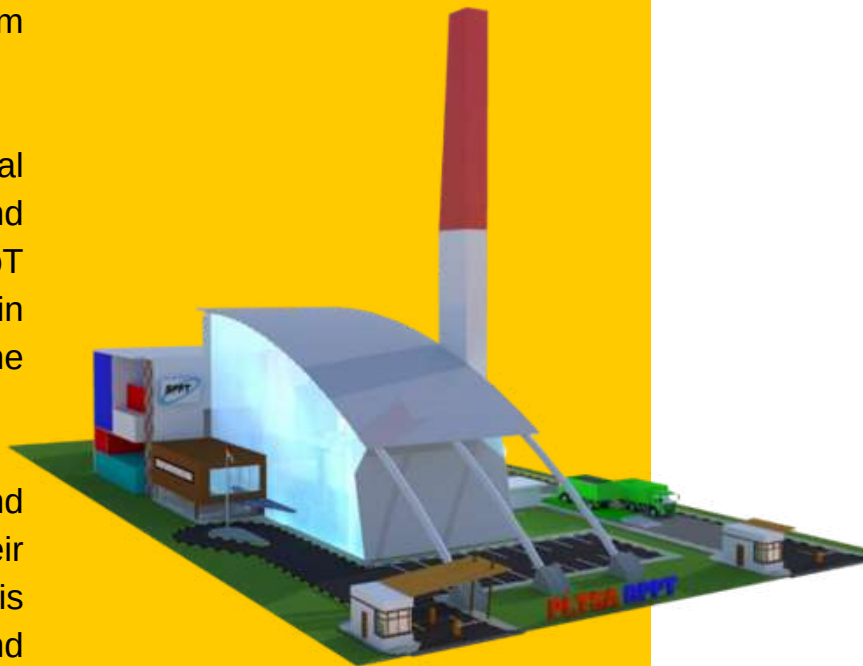
HIGH PERFORMANCE AND SMART!

Phoenix Incinerator™

Our Phoenix Incinerator is a high performance, robust and equipped with the latest SMART technology, which we embed an Internet of Things (IoT) system in each of our product.

The advancement of IoT within thermal incinerator equipment is lead by CRE, and we are the first company that is using IoT in all of our equipment to help the client in managing, controlling and using the equipment.

By applying IoT, customer can control and monitor their equipment simply using their mobile phone. The incinerator apps is designed to help the clients in viewing and generating reports as per requirement made by the customers.



01

IOT READY

03

ROBUST

02

APPS READY

04

HIGH PERFORMANCE



android



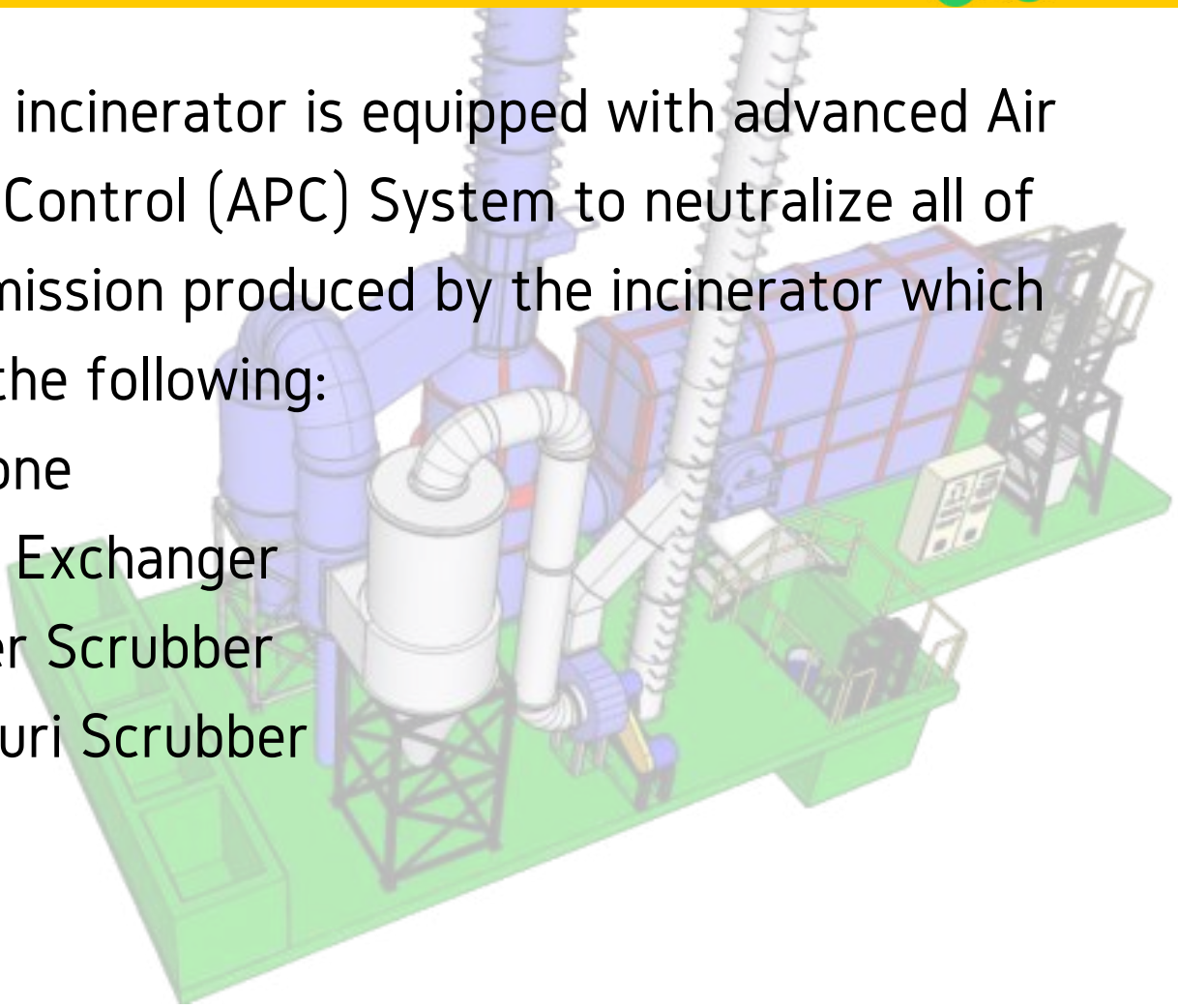
ADVANCED AIR POLLUTION CONTROL

NEUTRALIZED THE AIR EMISSION UP
TO MICROSCOPIC LEVEL AND
COMPLIANCE WITH REGULATION.

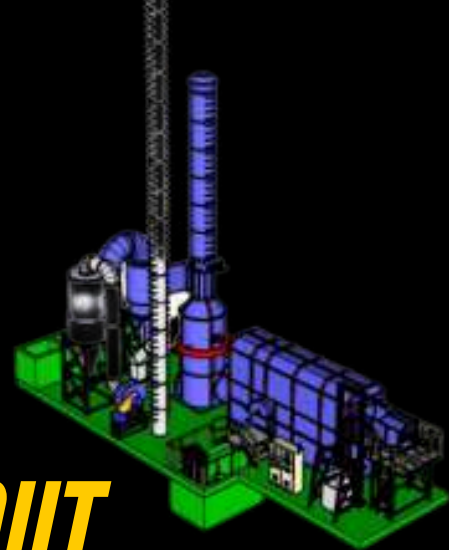


All of our incinerator is equipped with advanced Air Pollution Control (APC) System to neutralize all of the air emission produced by the incinerator which includes the following:

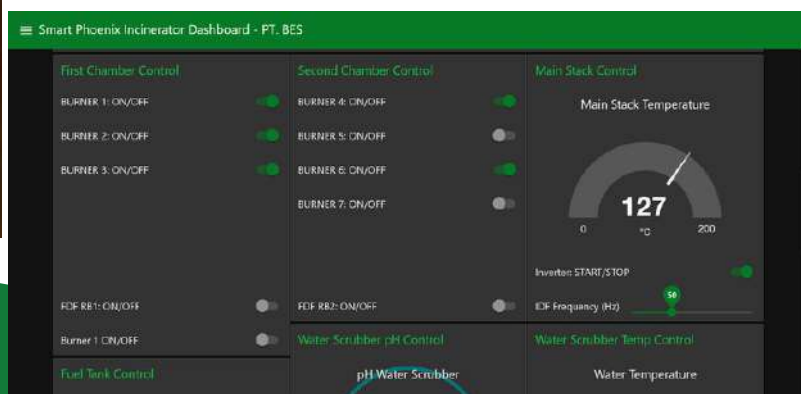
- Cyclone
- Heat Exchanger
- Water Scrubber
- Venturi Scrubber



TYPICAL MEDICAL AND B3 WASTE INCINERATION LAYOUT



Dashboard Control System



IoT - Android Apps Ready



GREEN
TECH

KLHK Approval.

Green Technology Registration.



KEMENTERIAN LINGKUNGAN HIDUP DAN KEHUTANAN
SEKRETARIAT JENDERAL

Gedung Manggala Wanabakti, Jalan Gatot Subroto
Jakarta 10270, Kotak Pos 6505
Telepon : 5730191, Faximile : 5738732

Nomor : S. 172/SETJEN/SLK/STD.2/2/2020
Lampiran : 1 (satu) berkas
Hal : Registrasi Teknologi Ramah Lingkungan
"Incinerator type Reciprocating Grate"

24 Februari, 2020

Yth.
Direktur PT Centra Rekayasa Enviro
Ruko Taman Mekar Agung No:42
Komplek Istana Taman Mekar Wangi
Jl. Moh. Toha, Bandung
Jawa Barat



Menindaklanjuti surat Saudara No : 002/CRE/I/2020 tertanggal 21 Januari 2020, perihal Surat Perpanjangan Registrasi Teknologi Ramah Lingkungan "Incinerator type Reciprocating Grate", bersama ini disampaikan bahwa:

1. Merujuk:
 - a. Undang-undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup, Pasal 63 ayat 1 butir v bahwa Pemerintah mengkoordinasikan, mengembangkan, dan menyosialisasikan pemanfaatan teknologi ramah lingkungan hidup;
 - b. Peraturan Menteri Negara Lingkungan Hidup No:22 Tahun 2009 tentang Tata Laksana Registrasi Kompetensi Bidang Lingkungan.
 - c. Peraturan Menteri Lingkungan Hidup No: 2 Tahun 2014 tentang Pencantuman Logo Ekolabel.
 - d. Keputusan Sekretaris Jenderal Kementerian Lingkungan Hidup dan Kehutanan Nomor: SK.5/SETJEN/SLK/STD.2/2/2019 tanggal 4 Februari 2019 tentang Komite Teknis Verifikasi Teknologi Ramah Lingkungan.
 - e. SNI 14034 -2017 : Manajemen Lingkungan – Verifikasi Teknologi Lingkungan.
2. Berdasarkan butir satu di atas, permohonan perpanjangan registrasi Alat Incinerator untuk Limbah Medis dan Sampah (Limbah Padat Domestik) type "Reciprocating Grate" telah disetujui dengan nomor registrasi : **020/TRL/Reg-2/KLHK**, dan masa berakhir nomor registrasi berlaku dalam jangka waktu 3 (tiga) tahun.
3. Dengan dikeluarkannya surat registrasi teknologi ramah lingkungan ini, maka surat registrasi teknologi ramah lingkungan dengan nomor S.347/SETJEN/SLK/SET.1/3/2017 tanggal 20 Maret 2017 dinyatakan sudah tidak berlaku.

Demikian disampaikan, atas perhatian Saudara diucapkan terimakasih.

Sekretaris Jenderal,

Dr. Ir. Bambang Hendroyono, M.M
NIP. 19640930 198903 1 001

Tembusan Yth:

1. Menteri Lingkungan Hidup dan Kehutanan (sebagai laporan);
2. Direktur Jenderal Pengelolaan Sampah, Limbah dan Bahan Berbahaya dan Beracun, KLHK;
3. Direktur Pengembangan Penyehatan Lingkungan pemukiman, Ditjen Cipta Karya, Kementerian



CRE-100



Centra Rekayasa Enviro

CONTACT US:

PT. Centra Rekayasa Enviro

Office:
Jl. Taman Mekar Agung, Ruko No. 42,
Istana Mekar Wangi, Bandung,
Indonesia 40237

Workshop:
Kawasan Industri De Prima Terra Blok E1-11,
Jalan Raya Sapan, Bojongsoang - Bandung,
Indonesia 40614


M: +62-811-1637-244

T: +62-22-888 6523

E: info@cr-enviro.com

www.cr-enviro.com

 @crenviro

 @CREnviro

 Centra Rekayasa Enviro



PHOENIX INCINERATOR™
CRE-100 SOLID AND LIQUID INCINERATOR

Applications:

Domestic, Medical and Hazardous Waste
Solid and Liquid Waste

Temperature range:

Primary Chamber 800 - 1000 C
Secondary Chamber 1000 - 1200 C

Capacity:

100 kg/hours

Air Pollution Control:

Water Scrubber and Cyclone System

Destruction Removal Efficiency:

99.9999%

Compliance:

In Accordance With Prevailing Government Regulation
Kep. 03/Bapedal/1995

Engineering Solutions for Our Environment, Industry and Community



INCINERATOR GENERAL SPECIFICATION

PT. CENTRA REKAYASA ENVIRO



GENERAL SPECIFICATION	Reciprocating Kap. 100 Kg/Jam
Merk	Phoenix Incinerator
Type	CRE-100
Kapasitas	100 Kg/Jam
Jenis Limbah	Limbah Domestik/Limbah Padat Medis/Limbah B3
Ruang Bakar Utama	2.6 M3
Ruang Bakar Kedua	1.9 M3
Meşin Burner (Pembakar)	2 Unit
Meşin Blower (Injector Udara)	2 Unit
Jenis Bahan Bakar	Solar/Gas
Konsumsi Bahan Bakar	30 Liter/jam
Kebutuhan Tegangan Listrik	220 v/ 380 v/ 50 Hz
Kebutuhan Daya Listrik	10 KW
Temperatur Ruang Bakar	Primary chamber 800 C - 1000 C, Secondary Chamber 1000 C - 1200 C
Waktu Tinggal Gas	>2 detik
Efisiensi Pembakaran	99,99%
Efisiensi Penghancuran dan Penghilangan (DRE)	99,9999%
Uji Dioxin Furan (Std min: <0.1 ng/nm3)	Pass
Indikator Temperatur	Digital thermocontrol
Kontrol Panel	PLC
Kapasitas Bahan Bakar	500 Liter
Sistem Pengumpan Limbah	Ram Feeder
Badan Meşin Utama	Mild Steel
Refractory material	SK 34 & SK 36 Bata Api dan C - 15 Castable cement
Bahan Penahan Panas (Isolator)	Insulation brick/ Ceramic Fiber/Rockwool/Glasswool
Spesifikasi Cerobong	1200 mm x 300 mm, Stainless Steel
Tinggi Cerobong (dari permukaan tanah)	14 meter
Lubang Pengambilan Uji Emisi	8 DE/2 DE
Fasilitas Pendukung Pengambilan Uji Emisi	Tangga dan Platform yang dilengkapi pengaman
Ukuran Dimensi Keseluruhan	9 m x 6 m x 2.5 m
Berat Meşin Keseluruhan	5 ton
Jenis Air Pollution Control (APC)	Water Scrubber dan Cyclone System



Centra Rekayasa Enviro

CONTACT US:

PT. Centra Rekayasa Enviro

Office:
Jl. Taman Mekar Agung, Ruko No. 42,
Istana Mekar Wangi, Bandung,
Indonesia 40237

Workshop:
Kawasan Industri De Prima Terra Blok E1-11,
Jalan Raya Sapan, Bojongsoang - Bandung,
Indonesia 40614

M: +62-811-1637-244

T: +62-22-888 6523

E: info@cr-enviro.com

www.cr-enviro.com

 @crenviro

 @CREnviro

 Centra Rekayasa Enviro



PHOENIX INCINERATOR™ CRE-300 SOLID AND LIQUID INCINERATOR

Applications:

Domestic, Medical and Hazardous Waste
Solid and Liquid Waste

Temperature range:

Primary Chamber 800 - 1000 C

Secondary Chamber 1000 - 1200 C

Capacity:

300 kg/hours

Air Pollution Control:

Water Scrubber and Cyclone System

Destruction Removal Efficiency:

99.9999%

Compliance:

In Accordance With Prevailing Government Regulation
Kep.03/Bapedal/1995

Engineering Solutions for Our Environment, Industry and Community

INCINERATOR GENERAL SPECIFICATION

PT. CENTRA REKAYASA ENVIRO



GENERAL SPECIFICATION	Reciprocating Kap. 300 Kg/jam
Merk	Phoenix Incinerator
Type	CRE-300
Kapasitas	300 kg/jam
Jenis Limbah	Limbah Domestik/Limbah Padat Medis/Limbah B3
Ruang Bakar Utama	6.7 M3
Ruang Bakar Kedua	7.1 M3
Meşin Burner (Pembakar)	5 Unit
Meşin Blower (Injector Udara)	2 Unit
Jenis Bahan Bakar	Solar/Gas
Konsumsi Bahan Bakar	75 Liter/jam
Kebutuhan Tegangan Listrik	220 v/ 380 v/ 50 Hz
Kebutuhan Daya Listrik	15 KW
Temperatur Ruang Bakar	Primary chamber 800 C - 1000 C, Secondary Chamber 1000 C - 1200 C
Waktu Tinggal Gas	>2 detik
Efisiensi Pembakaran	99,99%
Efisiensi Penghancuran dan Penghilangan (DRE)	99,9999%
Uji Dioxin Furan (Std min: <0.1 ng/nm3)	Pass
Indikator Temperatur	Digital thermocontrol
Kontrol Panel	PLC
Kapasitas Bahan Bakar	1000 Liter
Sistem Pengumpan Limbah	Bucket Lift & Ram Feeder
Badan Meşin Utama	Mild Steel
Refractory material	SK 34 & SK 36 Bata Api dan C - 15 Castable cement
Bahan Penahan Panas (Isolator)	Insulation brick/ Ceramic Fiber/Rockwool/Glasswool
Spesifikasi Cerobong	1200 mm x 300 mm, Stainless Steel
Tinggi Cerobong (dari permukaan tanah)	30 meter
Lubang Pengambilan Uji Emisi	8 DE/2 DE
Fasilitas Pendukung Pengambilan Uji Emisi	Tangga dan Platform yang dilengkapi pengaman
Ukuran Dimensi Keseluruhan	8.7 m x 10 m x 7.8 m
Berat Meşin Keseluruhan	12 ton
Jenis Air Pollution Control (APC)	Water Scrubber dan Cyclone System

CRE-500



Centra Rekayasa Enviro

CONTACT US:

PT. Centra Rekayasa Enviro

Office:
Jl. Taman Mekar Agung, Ruko No. 42,
Istana Mekar Wangi, Bandung,
Indonesia 40237

Workshop:
Kawasan Industri De Prima Terra Blok E1-11,
Jalan Raya Sapan, Bojongsoang - Bandung,
Indonesia 40614

M: +62-811-1637-244
T: +62-22-888 6523
E: info@cr-enviro.com
www.cr-enviro.com

@crenviro

@CREnviro

Centra Rekayasa Enviro



PHOENIX INCINERATOR™ CRE-500 SOLID AND LIQUID INCINERATOR

Applications:

Domestic, Medical and Hazardous Waste
Solid and Liquid Waste

Temperature range:

Primary Chamber 800 - 1000 C
Secondary Chamber 1000 - 1200 C

Capacity:

500 kg/hours

Air Pollution Control:

Water Scrubber and Cyclone System

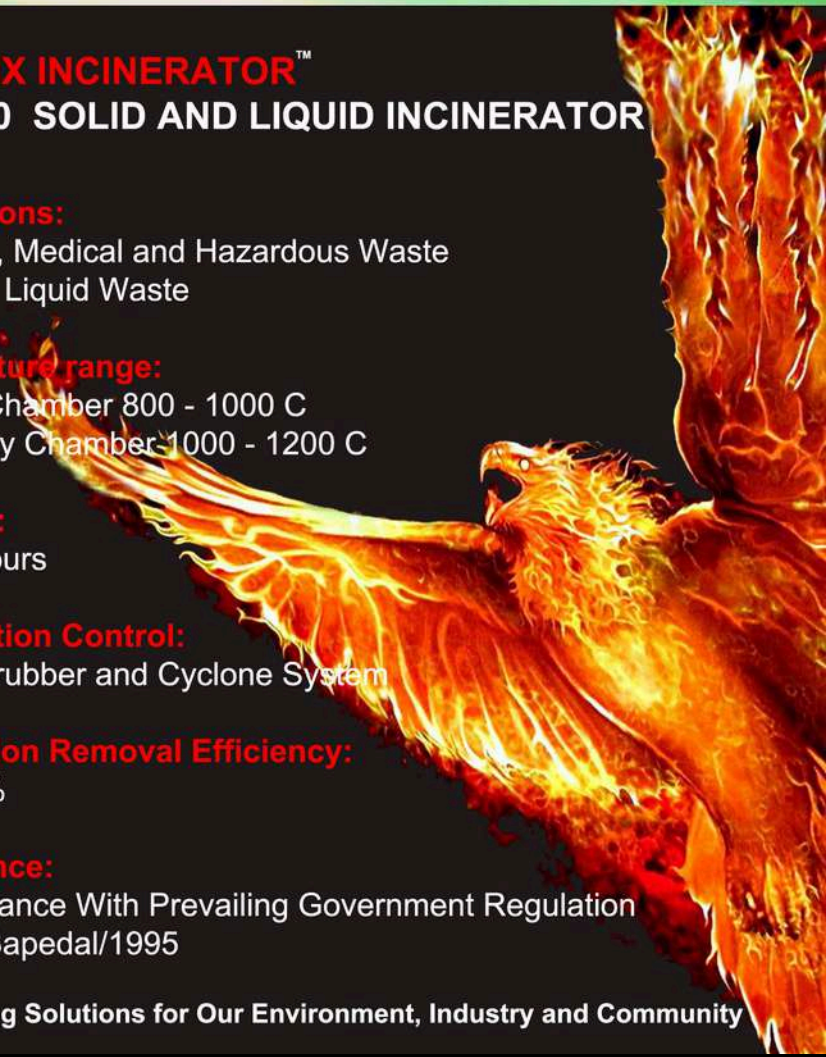
Destruction Removal Efficiency:

99.9999%

Compliance:

In Accordance With Prevailing Government Regulation
Kep. 03/Bapedal/1995

Engineering Solutions for Our Environment, Industry and Community



INCINERATOR GENERAL SPECIFICATION

PT. CENTRA REKAYASA ENVIRO

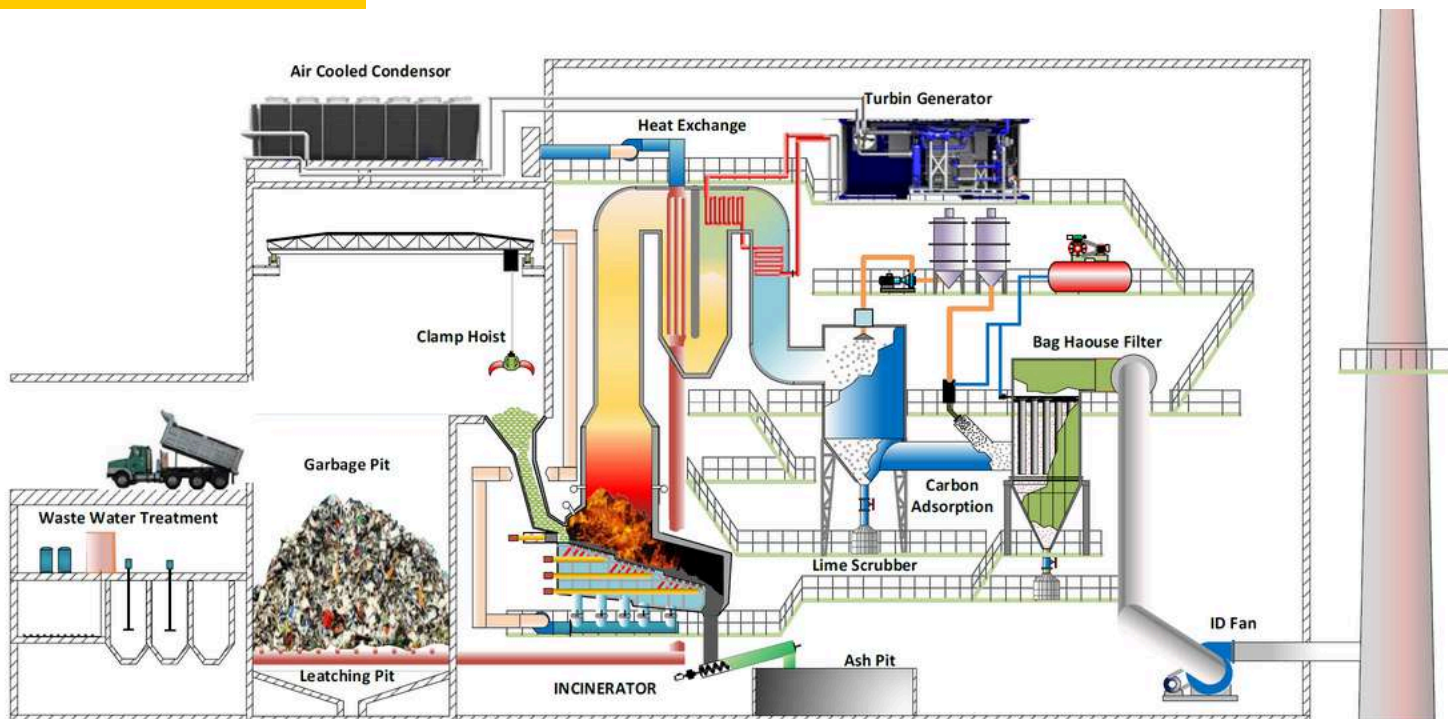


GENERAL SPECIFICATION	Reciprocating Kap. 500 Kg/jam
Merk	Phoenix Incinerator
Type	CRE-500
Kapasitas	500 Kg/Jam
Jenis Limbah	Limbah Domestik/Limbah Padat Medis/Limbah B3
Ruang Bakar Utama	8 M3
Ruang Bakar Kedua	8.5 M3
Meşin Burner (Pembakar)	7 Unit
Meşin Blower (Injector Udara)	2 Unit
Jenis Bahan Bakar	Solar/Gas
Konsumsi Bahan Bakar	95 Liter/jam
Kebutuhan Tegangan Listrik	220 v/ 380 v/ 50 Hz
Kebutuhan Daya Listrik	20 KW
Temperatur Ruang Bakar	Primary chamber 800 C - 1000 C, Secondary Chamber 1000 C - 1200 C
Waktu Tinggal Gas	>2 detik
Efisiensi Pembakaran	99,99%
Efisiensi Penghancuran dan Penghilangan (DRE)	99,9999%
Uji Dioxin Furan (Std min: <0.1 ng/nm3)	Pass
Indikator Temperatur	Digital thermocontrol
Kontrol Panel	PLC
Kapasitas Bahan Bakar	1000 Liter
Sistem Pengumpan Limbah	Bucket Lift & Ram Feeder
Badan Meşin Utama	Mild Steel
Refractory material	SK 34 & SK 36 Bata Api dan C - 15 Castable cement
Bahan Penahan Panas (Isolator)	Insulation brick/ Ceramic Fiber/Rockwool/Glasswool
Spesifikasi Cerobong	1200 mm x 300 mm, Stainless Steel
Tinggi Cerobong (dari permukaan tanah)	30 meter
Lubang Pengambilan Uji Emisi	8 DE/2 DE
Fasilitas Pendukung Pengambilan Uji Emisi	Tangga dan Platform yang dilengkapi pengaman
Ukuran Dimensi Keseluruhan	20 m x 7 m x 9 m
Berat Meşin Keseluruhan	16 ton
Jenis Air Pollution Control (APC)	Water Scrubber dan Cyclone System

WASTE TO ENERGY

PT Centra Rekayasa Enviro & China GDE Technology

Waste-to-Energy (WTE) is a process of converting waste into energy in the form of electricity, heat, or fuel through safe and environmentally friendly technologies. In Indonesia, the increasing waste management problem due to population growth and industrialization has made WTE a potential solution, addressing both waste reduction and the provision of renewable energy.



WASTE TO ENERGY

PT Centra Rekayasa Enviro & China GDE Technology



PT Centra Rekayasa Enviro, a leading environmental engineering company in Indonesia, has partnered with China GDE (Green Digital Environment) Technology to deliver state-of-the-art Waste-to-Energy (WtE) solutions. This collaboration brings together PT Centra's extensive local expertise in environmental projects with GDE's advanced WtE technologies, creating a strong synergy for Indonesia's waste management needs.



The WtE system developed under this partnership utilizes advanced incineration technology to convert municipal solid waste (MSW) into energy. The process is efficient and environmentally friendly, utilizing grate furnace technology and circulating fluidized bed designs to ensure optimal combustion, reducing emissions and maximizing energy output.

ADVANTAGES OF INCINERATOR TECHNOLOGY

EFFECTIVE WASTE MANAGEMENT

●

INCINERATORS CAN REDUCE WASTE VOLUME BY UP TO 90%, BENEFITING LARGE CITIES WITH LIMITED LANDFILL SPACE SUCH AS JAKARTA, SURABAYA, AND BANDUNG.

RENEWABLE ENERGY PRODUCTION

●

THE HEAT GENERATED FROM INCINERATION CAN BE CONVERTED INTO ELECTRICITY VIA STEAM TURBINES OR WATER HEATERS. DEPENDING ON THE CAPACITY, IT CAN GENERATE SEVERAL MEGAWATTS OF POWER.

ENERGY EFFICIENCY IMPROVEMENT

●

BY IMPLEMENTING COMBINED HEAT AND POWER (CHP), INCINERATORS NOT ONLY PRODUCE ELECTRICITY BUT ALSO HEAT, WHICH CAN BE USED FOR INDUSTRIAL PROCESSES, SPACE HEATING, OR HYDROPONIC FARMING.

REDUCED DEPENDENCE ON FOSSIL FUELS

●

UTILIZING WASTE AS AN ENERGY SOURCE CAN HELP INDONESIA REDUCE ITS RELIANCE ON FOSSIL FUELS, ALIGNING WITH NATIONAL RENEWABLE ENERGY TARGETS

REALLYGREATSITE.COM

MAIN PROCESSES OF WTE

WASTE HANDLING

Waste is weighed, stored in a bunker, and transported to the incinerator using cranes.



INCINERATION

Waste is burned at high temperatures, generating heat that is recovered and used to drive steam turbines.



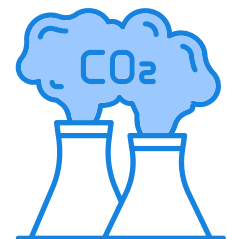
HEAT RECOVERY

The Heat Recovery Steam Generator (HRSG) converts the heat into steam, which powers turbines to generate electricity.



FLUE GAS TREATMENT

Exhaust gases are purified through various stages to remove pollutants like dioxins, COx, NOx, and SOx, and clean air is released.



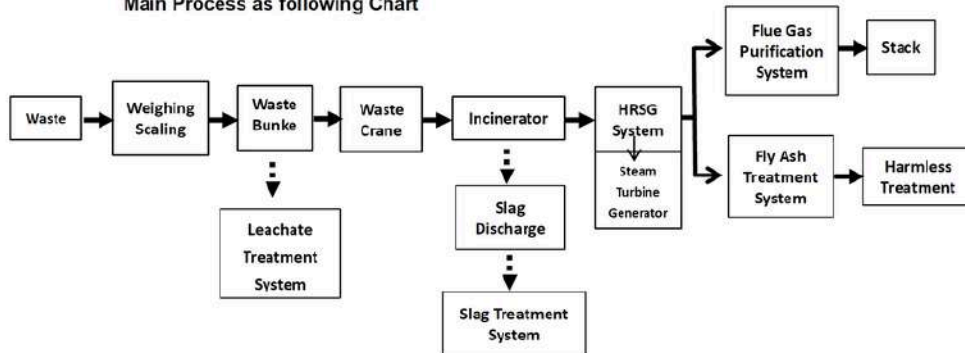
ASH MANAGEMENT

Ash generated during combustion is collected and processed



KEY FEATURES OF THE WTE SYSTEM INCLUDE:

Main Process as following Chart



CAPACITY:

Capable of processing 300-750 tons of waste per day, tailored to local waste generation rates.

ENERGY PRODUCTION:

The system generates up to 12-50 MW of electricity, providing a sustainable energy source for surrounding communities.

EMISSION CONTROL:

Equipped with advanced Flue Gas Desulfurization (FGD) and Baghouse Filters to ensure compliance with international environmental standards, such as the 2010/75/EU standard

WWW.CR-ENVIRO.COM



SAMPLE OF FEASIBILITY STUDY CALCULATION

GUNUNG PUTRI WTE PROJECT

Gunung Putri MSW Project	Value	Unit
Project scale	600	Ton/day
Concession period (Construction period excluded)	20	Years
Waste supply	500	Ton/day
Investment cost per ton	87,000.0	USD/T
Yearly incoming waste volume	182,500	Ton
Electricity generation per ton	390	KWH
Plant electricity consumption ratio	20%	
On-Grid electricity per ton	312	KWH
Yearly On-Grid electricity	62,337,600	KWH
Tipping fee price	10.00	USD/T
Feed-in tariff (Tax included)	0.1877	USD/KWH
Operation cost per ton waste (Depreciation excluded)	19.65	USD/T
Total Investment	43,500,000.00	USD
Yearly tipping fee revenue	1,825,000.00	USD
Yearly electricity sales revenue	11,700,767.52	USD
Slag sales revenue	-	USD
Yearly Total Revenue	13,525,767.5	USD
Yearly Operation Cost (Depreciation & Interest Excluded)	3,271,725.0	USD
EBITDA	10,254,042.52	USD
Yearly Net Profit	4,724,210.53	USD
Payback period (Construction included)	7.50	Years
IRR	13.99%	
USD Exchange Rate	15,564.50	
IDR Exchange Rate	0.0001	

The Waste-to-Energy project in Gunung Putri shows very positive prospects overall, with strong financial indicators, including significant revenue from tipping fees and electricity sales, as well as controlled operational costs. With a relatively fast payback period of 7.5 years and an IRR of 13.99%, this project is worth considering as a solution for waste management and a new energy source in Indonesia. Not only does this project significantly reduce waste volume, but it also contributes to renewable energy generation, making it an excellent choice for long-term investment.



PARTIAL WTE PORTFOLIO



Zhuhai Waste to Energy Plant

Capacity: $3 \times 200\text{t/d} + 1 \times 6\text{MW}$

Project features: The 1st waste incineration power generation project independently designed in China



Vietnam's Da Nang Waste to Energy Project

Capacity: $1 \times 600 \text{ t/d} + 1 \times 12\text{MW}$

Project features: The 1st waste incineration power generation project independently designed in Vietnam

Phuket Island Domestic Waste Incineration Power Generation Project

Capacity: $2 \times 350 \text{ t/d} + 2 \times 7\text{MW}$

Project features: Project features: The first in Southeast Asia put into operation in 2012



Waste to Energy

What is RDF Technology?

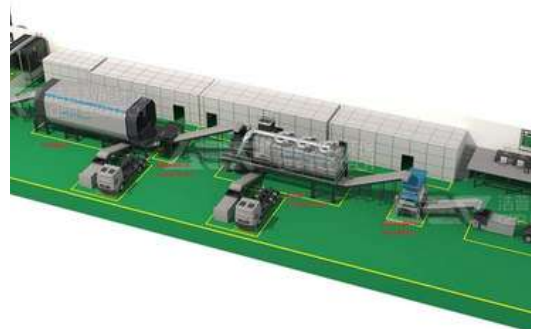
Refuse Derived Fuel (RDF) technology converts municipal solid waste (MSW) and industrial waste into high-calorific fuel. By selectively processing materials such as plastics, paper, and organic waste, RDF technology produces a solid fuel that can be used as an alternative energy source for industries such as cement manufacturing and power generation.

RDF has emerged as a leading solution in waste-to-energy conversion due to its environmental benefits and economic potential. By transforming waste into fuel, RDF helps reduce landfill dependency, lower greenhouse gas emissions, and decrease the demand for traditional fossil fuels.

The RDF Process

The RDF technology at PT Centra Rekayasa Enviro involves the following key steps:

1. **Waste Sorting:** Waste materials are carefully sorted to remove hazardous substances and separate non-combustible materials such as metals and glass.
2. **Shredding:** The sorted waste is then shredded into smaller particles to facilitate the drying and fuel production process.
3. **Drying:** Moisture content in the waste is reduced to enhance its calorific value. We employ advanced drying techniques, such as solar and steam drying, ensuring minimal energy consumption and optimal output.
4. **Screening and Pelletizing:** The processed waste is screened to remove any remaining oversized materials, and the fine material is compressed into pellets or bales for efficient handling and transportation.
5. **Storage and Utilization:** RDF is then stored securely and supplied to industries for use as an alternative to coal or other fossil fuels.



Key Benefits of **RDF Technology**

Energy Efficiency:

- ▶ RDF has a calorific value of up to 3,500 kcal/kg, making it a viable alternative to traditional fuels like coal.

Environmental Impact:

- ▶ By diverting waste from landfills and reducing greenhouse gas emissions, RDF contributes to cleaner air and water.

Economic Viability:

- ▶ RDF reduces the need for landfilling, lowers the cost of waste disposal, and provides industries with an economical source of fuel.

Compliance with Regulations:

- ▶ RDF aligns with Indonesia's national targets for greenhouse gas reduction, supporting the goals outlined in the Presidential Regulation No. 61/2011 regarding the National Action Plan for Greenhouse Gas Emissions (RAN-GRK).



Why Choose PT Centra Rekayasa Enviro?



Centra Rekayasa Enviro



- **Proven Expertise:** With years of experience in environmental engineering, PT Centra Rekayasa Enviro has successfully delivered waste management solutions for municipalities and industries across Indonesia.
- **Innovative Solutions:** Our RDF technology represents the cutting edge of waste-to-energy conversion, utilizing the latest processes to create cleaner energy.
- **Sustainability Focus:** We are committed to environmental stewardship, developing solutions that reduce pollution, preserve natural resources, and promote circular economies.
- **Customized Approach:** We work closely with our clients to design and implement tailor-made waste management systems that meet their specific needs, ensuring maximum efficiency and sustainability.



WASTE WATER TREATMENT (WWTP) PRODUCT AND SERVICES



android



CORE SERVICES

WWTP

WWTP DESIGN AND ENGINEERING

- Comprehensive WWTP process design, including mechanical, electrical, and piping systems.
- Specialized solutions for complex wastewater characteristics, ensuring compliance with environmental regulations.
- Detailed Engineering Design (DED) to provide precise project blueprints and specifications.

INSTALLATION AND CONSTRUCTION

- Full-service installation and commissioning of WWTP systems.
- On-site supervision and quality control to ensure seamless project completion.
- Turnkey solutions from initial assessment through to operational start-up.

CONSULTATION AND OPTIMIZATION SERVICES

- Assessment and optimization of existing WWTP systems to enhance efficiency and operational effectiveness.
- Technical evaluations and troubleshooting support for improved system performance.
- Training and capacity building for operational staff to ensure optimal WWTP management.

TECHNICAL AND OPERATIONAL SUPPORT

- Maintenance contracts and operational support to ensure continuous and efficient WWTP function.
- Comprehensive service packages covering technical support, operator training, and periodic evaluations.
- Real-time monitoring and reporting systems, including CEMS integration for regulatory compliance.

WWTP DESIGN ENGINEERING SERVICE

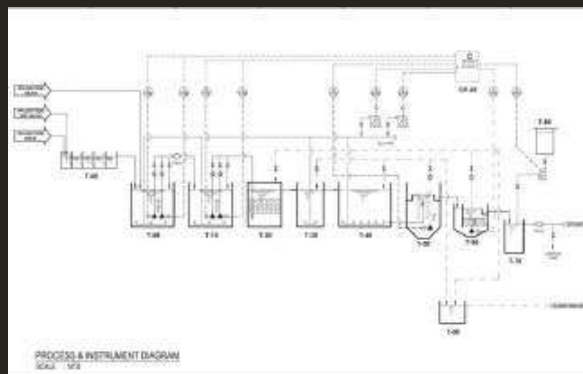


BASIC DESIGN

Basic Design for a Wastewater Treatment Plant (WWTP) establishes the foundational framework for the plant's construction and operational strategy. This phase includes defining treatment objectives, selecting appropriate technologies, estimating capacity, and designing the core treatment processes.

DETAILED ENGINEERING DESIGN (DED)

Detail Engineering Design (DED) is a detailed technical drawing used as a reference for implementing a Wastewater Treatment Plant (WWTP) construction project. In addition to serving as a working plan, DED can also be used as a guideline for maintenance and repair of the WWTP. DED components may include detailed building drawings, process block diagrams, Engineer's Estimate (EE) or Budget Plan (RAB), work plan, and specifications (RKS).





MANUFACTURING WASTE WATER PRODUCT

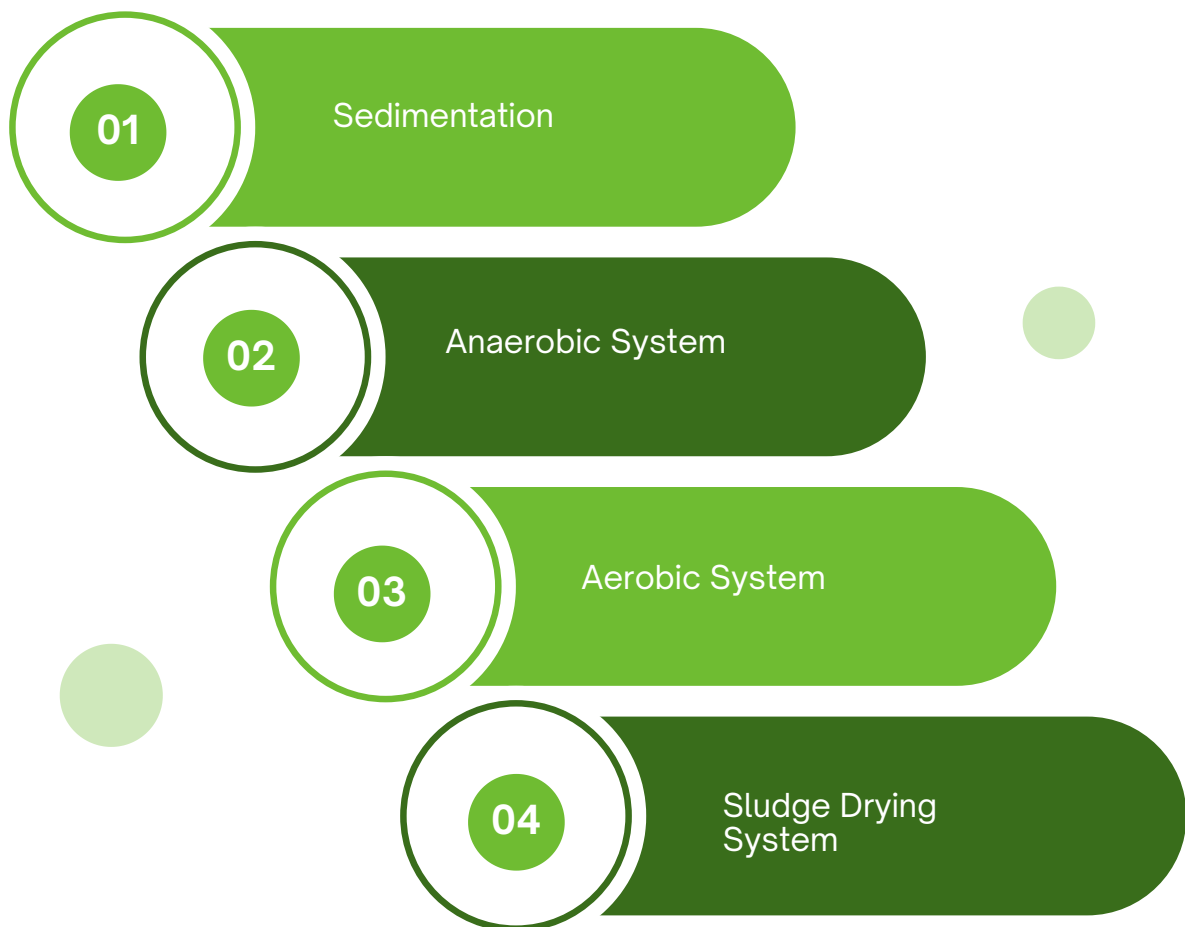


Waste Water Treatment Plant is a structure designed to treat biological and chemical waste in water, enabling it to be discharged into the environment while adhering to established water quality standards.

Below is our WWTP Product:

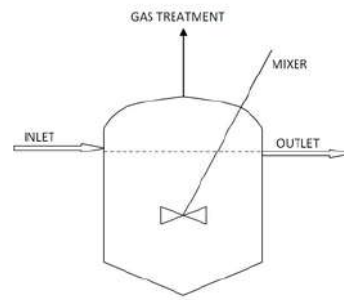
Dissolved Air Flotation (DAF) System

Dissolved Air Flotation (DAF) is a water treatment process that removes suspended solids, oils, and other impurities by dissolving air into the water under pressure. As the pressure is released, small air bubbles form and attach to the suspended particles, causing them to float to the surface. These accumulated particles are then skimmed off, resulting in cleaner, clearer water. DAF is particularly effective for treating wastewater with high levels of grease, oils, and suspended solids, making it a preferred solution in various industrial applications. Our DAF includes:



If required, we can add polishing technologies such as Reverse Osmosis (RO) or Ultra Filtration (UF) for recycling the water.

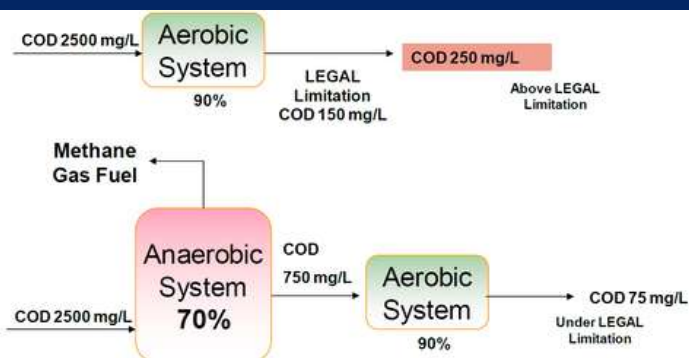
ANAEROBIC WWTP SYSTEM



Ilustrasi Anaerobik CSTR

Anaerobic Tank

Wastewater with a COD concentration greater than 3000 mg/L, specific characteristics (BOD ratio less than 0.3), or certain inhibitors is more effectively treated using anaerobic processes. In this method, microorganisms degrade the wastewater without requiring oxygen, making it an efficient approach for high-strength wastewater treatment.





AEROBIC SYSTEM

Wastewater with a COD concentration of less than 3000 mg/L and a BOD ratio of 0.3–0.6 is suitable for aerobic biological treatment, which aims to reduce organic compounds in the wastewater using aerobic bacteria—bacteria that require oxygen for their metabolic processes. These bacteria decompose organic compounds into CO_2 and H_2O .



ADVANCED WASTE WATER TREATMENT



NEUTRALIZED THE WASTE WATER AND WATER OUTLET IS COMPLIANCE WITH KLHK AND LOCAL REGULATION.

Electrocoagulation (EC), also known as shortwave electrolysis, is a technique used for water treatment, wastewater treatment, industrial treated water, and hospital wastewater.

Electrocoagulation technology based on electricity to remove inefficient contaminants by screening, microbiology or processing systems with chemicals, such as oil emulsions, hydrocarbons from petroleum, suspended solids, and heavy metals without the use of chemicals.

The working principle of electrocoagulation (EC) is the process of destabilizing suspended and emulsified contaminants in aqueous media using an electric current.


Advantages of EC processes:

- Lower processing costs
- Land requirement is relatively less and small
- Almost does not require additional chemicals
- Able to process various types of liquid waste
- Sludge produced is less
- The hazard and risk of working is very small
- The processing time is faster

KRITERIA	MEKANIKAL FILTRASI	BIOREMEDIASI	BAHAN KIMIA	ELEKTRO KOAGULASI
HASIL	TIDAK EFEKTIF	TIDAK EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF
HARGA	MODERAT EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
KEMUDAHAN OPERASIONAL	TIDAK EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
KEMUDAHAN PERAWATAN	TIDAK EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
OIL REMOVAL	MODERAT EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF	SANGAT EFEKTIF
TSS REMOVAL	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF	SANGAT EFEKTIF
METAL REMOVAL	TIDAK EFEKTIF	TIDAK EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF

GREEN
TECH

KLHK Approval. Green Technology Registration.

**KEMENTERIAN LINGKUNGAN HIDUP DAN KEHUTANAN**
SEKRETARIAT JENDERAL
Gedung Manggala Wanabakti, Jalan Gatot Subroto
Jakarta 10270, Kotak Pos 6505
Telepon : 5730191, Faximile : 5738732

17 Juni 2020


Nomor : S.592/SETJEN/SLK/STD.2/6/2020
Lampiran : 1 (satu) berkas
Hal : Registrasi Teknologi Ramah Lingkungan
Instalasi Pengolahan Air Limbah Elektrokoagulasi

Yth.
Direktur PT Centra Rekayasa Enviro
Ruko Taman Mekar Agung No:42
Komplek Istana Taman Mekar Wangi
Jl. Moh. Toha, Bandung



Sehubungan dengan surat Saudara No : 002/CRE/IV/2020 tertanggal 14 April 2020, perihal Surat Perpanjangan Registrasi Teknologi Ramah Lingkungan "Instalasi Pengolahan Air Limbah Elektrokoagulasi", bersama ini disampaikan bahwa:

- Merujuk:
 - Undang-undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup, Pasal 63 ayat 1 butir v bahwa Pemerintah mengkoordinasikan, mengembangkan, dan menyosialisasikan pemanfaatan teknologi ramah lingkungan hidup;
 - Peraturan Menteri Negara Lingkungan Hidup No:22 Tahun 2009 tentang Tata Laksana Registrasi Kompetensi Bidang Lingkungan.
 - Peraturan Menteri Lingkungan Hidup No: 2 Tahun 2014 tentang Pencantuman Logo Ekolabel.
 - Keputusan Sekretaris Jenderal Kementerian Lingkungan Hidup dan Kehutanan Nomor: SK.5/SETJEN/SLK/STD.2/2/2019 tanggal 4 Februari 2019 tentang Komite Teknis Verifikasi Teknologi Ramah Lingkungan.
 - SNI 14034 -2017 : Manajemen Lingkungan – Verifikasi Teknologi Lingkungan.
- Berdasarkan butir satu di atas, permohonan perpanjangan registrasi Instalasi Pengolahan Air Limbah Elektrokoagulasi merk "ELECTRIC EEL" telah disetujui dengan nomor registrasi : **023/TRL/Reg-2/KLHK**, dan masa berakhir nomor registrasi berlaku dalam jangka waktu 3 (tiga) tahun.
- Dengan dikeluarkannya surat registrasi teknologi ramah lingkungan ini, maka surat registrasi teknologi ramah lingkungan dengan nomor S.638/SETJEN/SLK/SET.1/6/2017 tanggal 2 Juni 2017 dinyatakan sudah tidak berlaku.

Demikian disampaikan, atas perhatian Saudara diucapkan terimakasih.


Sekretaris Jenderal,
Dr. H. Hendar Hendroyono, M.M.
NIP. 19500903 1 001

Tembusan Yth:
1. Menteri Lingkungan Hidup dan Kehutanan (sebagai laporan);
2. Direktur Jenderal Pengendalian Pencemaran dan Kerusakan Lingkungan, KLHK.





ELECTRIC EEL - ELECTROCOAGULATION WWTP CONTAMINANT REMOVAL SYSTEM

Applications:

Domestic, Medical and Hazardous Waste Liquid Waste

Benefit:

- Less processing fee (monthly cost)
- Land requirement is relatively small
- Proses is simple, effective and efficient
- There is virtually no need of chemical materials
- Able to process various types of liquid waste
- Less sludge generated from the process
- Risk of workmanship is relatively small
- Faster processing time
- Registered as Eco Label (Green technology) by KLHK Indonesia

Capacity:

Customized as per customer requirement

Application in the Industry:

Oil and Gas, Mining, Automotive, Petrochemical, Hospitals, etc

Engineering Solutions for Our Environment, Industry and Community



Centra Rekayasa Enviro

CONTACT US:

PT. Centra Rekayasa Enviro

Office:
Jl. Taman Mekar Agung, Ruko No. 42,
Istana Mekar Wangi, Bandung,
Indonesia 40237

Workshop:
Kawasan Industri De Prima Terra Blok E1-11,
Jalan Raya Sapan, Bojongsoang - Bandung,
Indonesia 40614

M: +62-811-1637-244

T: +62-22-888 6523

E: info@cr-enviro.com

www.cr-enviro.com



@crenviro

@CREnviro

Centra Rekayasa Enviro

Experience List - Portofolio



2010
PT. Desa Air Cargo, Batam
Hazardous Waste Treatment Plant
ECR Capacity 24 M³/day

2010
PT. Tenang Jaya Sentosa, Karawang
Hazardous Waste Treatment Plant
ECR Capacity 48 M³/day



2012
PT. Putra Restu Ibu Abadi, Mojokerto
Hazardous Waste Treatment Plant
ECR Capacity 48 M³/day



PETRO CHEMICAL INDUSTRY

- Removal of efficiency pollutant >90%



TEXTILE INDUSTRY

- Removal of efficiency pollutant >90%



FOOD and beverage industry

- Removal of efficiency pollutant >95%

2014
PT. Sanyo Jaya Component, Depok
Electrical Component Industry
ECR Capacity 800 M³/day



2014
PT. Futami Food, Bogor
Bottled Tea and Soft Drink Industry
ECR Capacity 250 M³/day



2014
PT. Suzuki Indomobil Motor Indonesia, Jakarta
Automotive Industry
ECR Capacity 200 M³/day



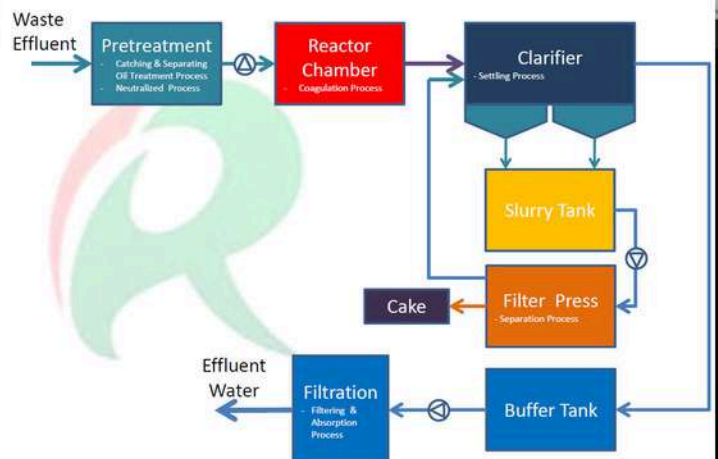
2015
PT. Akebono Astra Brake Indonesia, Jakarta
Automotive Spare Parts Industry
ECR Capacity 300 M³/day



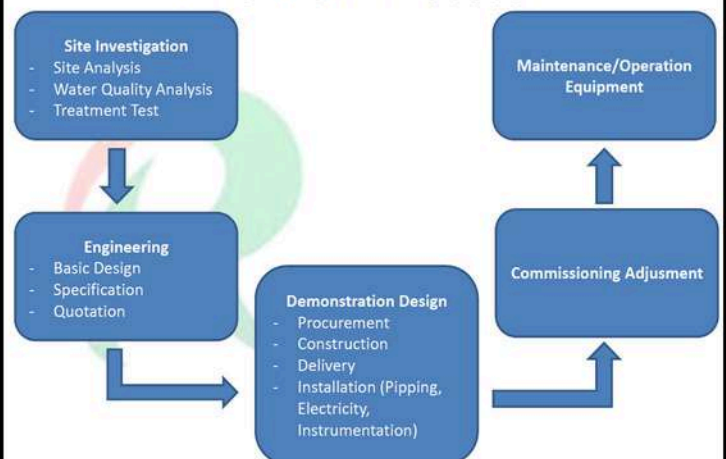
Perbandingan Teknologi IPAL:

KRITERIA	MEKANIKAL FILTRASI	BIOREMEDIASI	BAHAN KIMIA	ELEKTRO KOAGULASI
HASIL	TIDAK EFEKTIF	TIDAK EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF
HARGA	MODERAT EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
KEMUDAHAN OPERASIONAL	TIDAK EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
KEMUDAHAN PERAWATAN	TIDAK EFEKTIF	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF
OIL REMOVAL	MODERAT EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF	SANGAT EFEKTIF
TSS REMOVAL	MODERAT EFEKTIF	TIDAK EFEKTIF	SANGAT EFEKTIF	SANGAT EFEKTIF
METAL REMOVAL	TIDAK EFEKTIF	TIDAK EFEKTIF	MODERAT EFEKTIF	SANGAT EFEKTIF

WWTP EC Flow Process



EPC Main Process



Centra Rekayasa Enviro

CONTACT US:

PT. Centra Rekayasa Enviro

Office:
Jl. Taman Mekar Agung, Ruko No. 42,
Istana Mekar Wangi, Bandung,
Indonesia 40237

Workshop:
Kawasan Industri De Prima Terra Blok E1-11,
Jalan Raya Sapan, Bojongsoang - Bandung,
Indonesia 40614

M: +62-811-1637-244

T: +62-22-888 6523

E: info@cr-enviro.com

www.cr-enviro.com



@crenviro

@CREnviro

Centra Rekayasa Enviro

Portfolio Pekerjaan

PT. Akebono Brake Astra Indonesia, sebuah perusahaan patungan antara Akebono Brake Industry Co., Ltd. dari Jepang dan PT Astra Otoparts Tbk dari Indonesia, sedang membangun pabrik baru di Kawasan Industri KIIC Karawang. Perusahaan ini dikenal sebagai produsen terkemuka komponen rem otomotif yang mengutamakan kualitas dan inovasi. Langkah strategis ini diambil untuk meningkatkan kapasitas produksi dan memenuhi permintaan pasar domestik maupun ekspor.



Untuk mendukung pabrik baru tersebut, PT. Centra Rekayasa Enviro (CRE) telah menerima pekerjaan untuk pengadaan sistem pengolahan air limbah (Waste Water Treatment Plant - WWTP) berbasis Elektrokoagulasi dengan kapasitas 7 m³/jam dan WWTP Kimia dengan kapasitas 16 m³/jam, sistem pengolahan air limbah domestik (Sewage Treatment Plant - STP), dan sistem Reverse Osmosis (RO) dengan kapasitas 6 m³/jam untuk proses daur ulang air limbah mereka.



Proyek ini merupakan langkah strategis PT. Akebono Brake Astra Indonesia dalam meningkatkan kapasitas produksi dan memenuhi permintaan pasar yang terus berkembang. Dengan kerjasama ini, PT. Centra Rekayasa Enviro berharap dapat berkontribusi secara signifikan dalam mendukung keberlanjutan dan efisiensi operasional pabrik baru mereka di KIIC Karawang.



PARTIAL EXPERIENCE LIST

- Kementerian Lingkungan Hidup dan Kehutanan (KLHK) Indonesia
- RSUD Patrol, Jawa Barat
- RSUD Ciawi, Bogor
- RSUD Rembang, Jateng
- RS Banjarmasin Siaga, Kalsel
- RS ST Carolus Borromeus, Kupang
- PT. Akebono Astra Indonesia, Jakarta & Karawang
- PT. Andhika Makmur Persada (AMP), Bogor
- PT. Tenang Jaya Sejahtera (TJS), Karawang
- PT. Bintangmas Cahaya Internasional (BCI), Serang
- PT. Harapan Baru Sejahtera Plastik (HBSP), Karawang
- PT. Arah Environmental Indonesia (ARAH), Solo
- PT. Triguna Pratama Abadi (TPA), Karawang
- PT. Putera Restu Ibu Abadi (PRIA), Mojokerto
- PT. Multi Hanna Kreasindo Tbk (MHK), Bekasi
- PT. Horas Miduk (HM), Sukabumi
- PT. Selamat Sempurna Tbk (ADR Group), Banten
- PT. Sumatera Deli Lestari Indah (SDLI), Medan
- PT. Purwakarta Jaya (PJ), Purwakarta
- PT. BS Jaya (BSJ), Cirebon
- PT. Global Enviro Nusa (GEN), Semarang
- PT. Balikpapan Environment Services (BES), Balikpapan
- PT. Istaka Karya Tbk (IK), Cirebon
- PT. Adhi Karya Tbk (BUMN), Medan
- PT. Jasa Medivest, Bandung
- PT. Kapur Beunghar Abadi, Sukabumi



PARTIAL EXPERIENCE LIST

- PT. Jatim Maju Jaya - PT. Pratama Jatim Lestari (BUMD), Mojokerto, Jatim
- PT. Pertamina Hulu Rokan (PHR, Riau
- Universitas Padjajaran, Bandung
- British Petroleum (BP) Berau Ltd, Papua
- Petrogas (Basin) Ltd, Papua
- PT. Istaka Karya (Persero)
- PT. KAI Indonesia (Persero), Balai Yasa, Yogyakarta
- PT. Prasadha Pamunah Limbah Industri (PPLI), Bogor
- PT. Darma Henwa, Malinau Coal Site Project, Kaltara
- PT. LX International (LG Korea Group), Jakarta
- PT. Futami Food & beverages, Sukabumi
- PT. Harya Dewa, Purwokerto
- PT. jalan Hijau, Jakarta
- PT. Nasional Hijau Lestari (BUMN), Jakarta
- PT. Pengelola Limbah Kutai Kertanegara, Kaltim
- PT. PLN Operasional Riau, Pekanbaru
- PT. Raja Gudang Mas, banten
- PT. Wahana Pamunah Limbah Industri, Banten
- PT. Sanyo Jaya Komponen, Depok
- PT. Johnson Home Hygiene Products, Jakarta
- PT. Sumatera Deli Lestari Indah, Medan
- PT. Suzuki Indomobil, Jakarta
- PT. Cimory Mountain Dairy, Bogor
- PT. Sarihusada Generasi Mahardhika, Klaten

WASTE WATER TREATMENT PLANT - ELECTROCOAGULATION SYSTEM



DOMESTIC, MEDICAL AND HAZARDOUS WASTE INCINERATOR CAP. 300 KG/HOURS | CRE-300



DOMESTIC, MEDICAL AND HAZARDOUS WASTE INCINERATOR CAP. 500 KG/HOURS | CRE-500



PROJECT GALLERY



CONTACT US



Centra Rekayasa Enviro

PT. CENTRA REKAYASA ENVIRO

Engineering Solutions for Our Environment, Industry and Community

Office:

Jl. Mekar Agung, Ruko Taman Mekar Agung
No 42, Mekarwangi, Bojongloa Kidul, Kota
Bandung, Jawa Barat 40237,
Indonesia

Phone: (022) 8888 6523

Mobile/SMS/Whatsapp: 0811-110-3650

General Inquiry:

info@cr-enviro.com

www.cr-enviro.com

Workshop:

Kawasan Industri Deprima Terra Blok E1 No
11, Jalan Raya Sapan No.1A, Tegalluar,
Bojongsoang, Bandung, Jawa Barat 40287,
Indonesia

Phone: (022) 8888 6522

Mobile/SMS/Whatsapp: 0811-110-3650

Marketing Inquiry:

marketing@cr-enviro.com

www.cr-enviro.com