

MYRZ



Trading & Consulting



REUSE 
REDUCE
RECYCLE
GO-GREEN



GREEN AUDIT

INDEX :

- A. ENERGY AUDIT**
- B. WATER & WASTE WATER AUDIT**
- C. BIOWASTE AUDIT**



BACK GROUND



The supply of sustainable energy is becoming the global challenge to not only the policy makers but also to enterprises, particularly in the light of continuous increasing energy cost.



Aside of the energy, water is also one of the most crucial elements in the world. Treating the water & waste treatment properly not only bringing low operation cost, but also safety.



There has been years where the organic effluent is wasted without knowing the potential energy that it could deliver. By the biogas technology and proper effluent treatment, the organic effluent is now potential to generate the energy and also other benefits (e.g : grow the algae which will produce the biomass to be converted into the another potential energy – sustainable energy). One of the potential organic waste effluent is palm oil mill effluent (POME).



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ENERGY AUDIT



ENERGY AUDIT

Initially, we will have to do the Walk Through Audit to our client's plant. The objectives of the **Walk Through Audit** is to :

- ✓ Identify areas of potential energy savings;
- ✓ Make energy retrofit recommendations;
- ✓ Develop a clear action plan, which prioritizes energy efficiency retrofits according to investment and payback period.

For each recommendation, our consultants will quantify the investment cost, savings, and payback period. The end goal of the Walk Through Audit is to reduce the operational costs of the client by optimizing its energy efficiency.

Energy efficient measures proposed to clients include replacing old equipment with new high efficiency equipment, installing add on technologies to increase the efficiency and performance of equipment, as well as making operational changes to cut costs with no investments required. Each suggested retrofit is customized to individual client's needs and budgets.



ENERGY AUDIT

The **Detail Audit** is to identify accurately the amounts of energy being consumed by equipment so that informed investment decisions can be made regarding the payback periods for equipment retrofits.

For each recommendation our consultant will quantify the investment cost, savings, and payback period. Detailed Audits provide an in-depth level of data collection and analysis which allows for extensive identification of potential energy savings and more exact financial evaluation and recommendations. The end goal of the Detailed Audit is to give decision makers detailed, clear and accurate data and analysis so that they can make strong financial decisions.

The energy audit is applicable in wide range of industries.





ENERGY SPECIALIST

Steven Piro, through leadership of numerous high profile energy efficiency projects in Indonesia and the US, Steve has established himself as one of the leading **energy efficiency specialists** in Indonesia.

Steve was the lead energy efficiency consultant of the University of Multimedia Nusantara, which has been regarded as the first low energy university in Indonesia. Steve was also appointed the lead energy consultant of the Indonesian International Expo, which will be the largest Expo Center in South East Asia. Steve has worked closely with the Indonesian Ministry of energy in providing design input to their National Energy Auditor Software Platform and has been a keynote speaker at multiple Indonesian Ministry of Energy workshops on energy efficiency.

Steve is equipped with a degree from the University of San Diego in Environmental Science and Economics, which is complimented by his “world education” resulting from travel through more than 40 countries.



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WATER AUDIT



WATER & WASTE WATER AUDIT

The objective of the Water & Waste Water Audit is :

- To evaluate the procedure, operation, monitoring & control of Raw Water Treatment Plant, Boiler & Cooling Water Feed Water Treatment, Internal Boiler & Cooling Water Treatment, & Waste Water Treatment Plant to ensure that the plant is operated correctly at optimum level.
- To review the capability of laboratory instrument and online analyzer related to water treatment.
- To look for opportunity for water recycle or reuse in the plant.

The audit will come out with some corrective action and opportunity for improvement recommendation to improve the plant operation and to minimized water & chemical usage.

The water & waste water audit is applicable in wide range of industries.





WATER & WASTE WATER SPECIALIST

Ariyanto has bachelor degree in Chemical Engineering from Institute Technology of Bandung (ITB) in 1996, Ariyanto is a **Water & Waste Water Treatment Expert** with almost 17 years becoming Water & Waste Water Treatment Engineer & Consultant across many industries from Power Plant, Petrochemical Plant, Palm Oil Plant, Mining, etc.



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BIOWASTE AUDIT



BIOWASTE AUDIT

The bio-waste audit will identify whether there is potential waste usage to convert biomass waste into energy and/or bio-product. The objective of this audit:

- Biomass waste assessment that produced by processing plant (potential sources, logistic costs, and market prices);
- Biomass technology assessment for energy generation and bio-product (pretreatment system and biomass technology).

This audit will come out with a comprehensive feasibility study including technological, economical, and social impact. It is expected that from this audit we could increase the added value of the bio-waste that can be used internally for the processing plant or can be sold in local or international market.

The waste audit is applicable to those industries which have the organic waste effluent.





BIOWASTE SPECIALIST

Ichsan is our biowaste specialist that has more than 7 years in biowaste-to-energy and biowaste-to-product. Previously, he has been working with Shell E&P in the Netherlands and with some consulting companies. He has been involved in international projects from R&D, project development, project financing, technology assessment, project management, and project execution. Currently, he is also supporting some bioenergy projects at the Indonesian Ministry of Energy & Mineral Resources. He is also actively involved as a guest speakers in conferences, lecturers, and workshops.

Ichsan has Bachelor Degree in Gas & Petrochemical Engineering (University of Indonesia, Indonesia), Master Degree in Process Engineering & Energy Technology (University of Applied Science Bremerhaven, Germany), and Professional Doctorate in Engineering Degree in Process & Product Design (Eindhoven University, the Netherlands).

MYRZ has made a cooperation with him in providing bio-waste audit services.



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THANK YOU



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