



# TOLERO

*RENEWABLES INDONESIA*



# TOLERO RENEWABLES INDONESIA

Leading Developer Of Technologies And Bio-Based Chemicals



# Working for a Better Future

## THE TECHNOLOGY AND PRODUCTS FOR A GREENER FUTURE

Vision: To be a leading developer of technologies and produce bio-based chemicals for Indonesia and the world.

Mission: Tolero Renewables Indonesia develops technologies to replace the current petrochemical based building blocks by using alternative and renewable feedstocks. From this we create biofuel and oils, base chemicals and polymers as well as polymer additives, colorants, flavors and fragrances.

### OUR STRENGTHS

- TECHNOLOGY R&D
- SCIENTIFIC INNOVATION
- RAPID PROTOTYPING
- LOW COST DEVELOPMENT
- DESIGN CAPABILITIES
- RESOURCE SAVINGS
- INTERNATIONAL PRESENCE
- WORLDWIDE REACH

## Technology at Work

PYROLYSIS TECHNOLOGY HAS THE POTENTIAL TO DISPLACE PETRO-CHEMICALS WITH GREEN RENEWABLE CHEMICALS

### PYROLYSIS AT THE HEART OF TOLERO RENEWABLES INDONESIA

Biomass pyrolysis is a very old process. However, Fast Pyrolysis is relatively new. At Tolero Renewables Indonesia we developed our own State Of The Art Pyrolysis Technology with the approach of always keeping the costs low, for the systems and the products.

Fast pyrolysis is a thermal decomposition process that occurs in the absence of oxygen, at moderate temperatures with a high heat transfer rate to the biomass particles and a short hot vapor residence time (in the order of a few seconds) in the reaction zone.

#### ADVANTAGES OF TOLERO RENEWABLES INDONESIA PYROLYSIS SYSTEMS

- Compact
- Low cost
- Simple
- High Yields
- Clean



## TECHNOLOGICAL SOLUTION

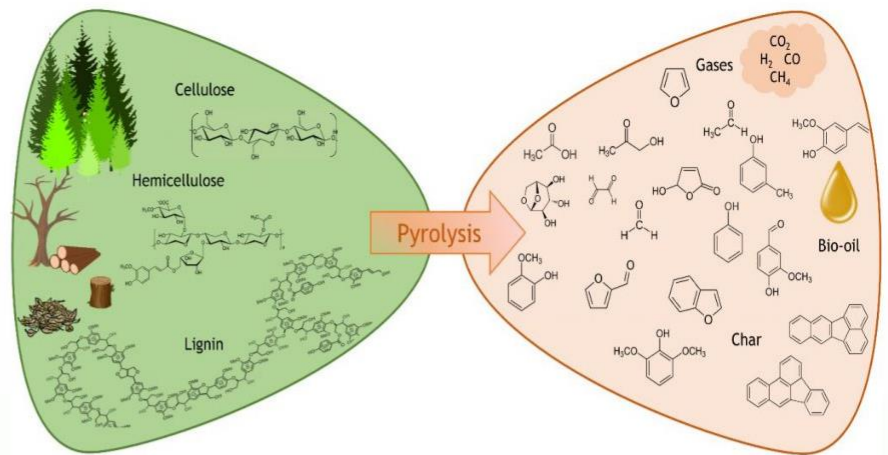
Tolero Renewable Indonesia is constantly developing technologies for the production and refining of renewable chemicals. Our approach to these bio-refineries will keep costs down for both production and end products.

## PRODUCT SOLUTIONS

The renewable chemicals from our plants can be sold in bulk or prepared for specific markets. Such chemicals derived from our process can be used in many industries. An almost unlimited amount of chemicals can be de-ri-ved from our feedstocks.

## SUPPORT SOLUTIONS

Our clients can always count on us with our expertise and rapid turnover to solve their problems and find solutions.



## BIOMASS FOR A GREEN SUSTAINABLE ECONOMY

Nature provides a remarkably wide range of renewable raw materials with varying properties and differing chemical compositions. Renewable raw materials are therefore especially interesting as alternatives to fossil resources for energy generation and as starting materials for industrial chemistry.

## PRODUCTION PLANTS AND DERIVATIVE EQUIPMENT

Tolero Renewables Indonesia builds and assembles complete pyrolysis plants as well as the processing equipment for product manufacturing. Several of our equipment can also be used in other applications.

## APPLICATIONS

Different biomass material can be processed in our pyrolysis system. Each material has potential to produce new chemicals. The potential for finding new bio-active chemical species or simply a renewable source for common commodity chemicals is truly exciting.

- Chemicals
- Solvents
- Adhesives
- Cosmetics
- Pharmaceuticals
- Cleaning Agents
- Coatings
- Paints
- Printing Inks
- Crop Protection
- Dietary Supplements
- Flavors
- Preservatives
- Water Treatment
- Fertilizers
- Fuel
- Lubricants
- Surfactants
- Deicers
- And More...





## CONTACT US

In a world where resources are limited and what we use in our everyday lives would be best if it came as much as possible from renewable sources, Tolero Renewable Indonesia is part of the solution.

Technology is instrumental in driving business growth and creating more efficient processes that contribute to increased productivity. We provide technology and know-how to add value to your bio-mass that would otherwise end up as costly waste, unused.

Contact us, we can help.



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