

since 1984

PALM OIL SUSTAINABILITY

POME and by-products management



www.bio-tec.net

RESULT:

World leader in different agro-industrial sectors

Palm Oil sector

Worldwide achievements:

- 2nd POME Biodigester in the world**
(Palmeras del Llano, Colombia, 1988)
- 1st Micro-asperion liquid fertilization**
(Palmar Sta. Elena, Colombia, 1991)
- 1st Lagoon-based biodigester for POME**
(Palmeiras, Colombia, 1999)
- 1st CDM (+Gold Standard) project with POME**
(Eecopalsa, Honduras, 2006)
- 1st Macro-drip liquid fertilization system (with remote monitoring)**
(Exportadora del Atlántico, Honduras, 2010)
- 1st Joint POME + Oleochemical Effluents biodigester**
(Manuelita, Colombia, 2014)
- 1st POME to animal feed plant**
(SSP to Godrej, India 2018)
- 1st POME to powdered biofertilizer**
(SSP, Faridabad, India 2019)

Other Biotec activities

OTHER AGRO-INDUSTRIES:

sugar cane, distilleries, starch, citrus, fruits, meat,...

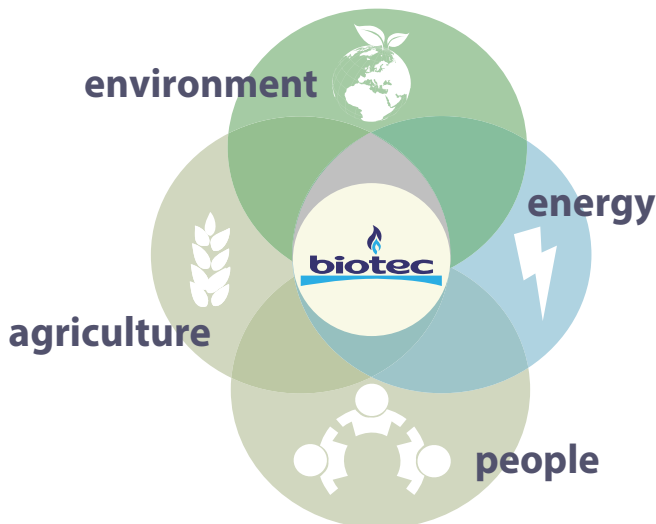
OTHER SECTORS: Gas Farms

Renewable natural gas generation from grass and forage crops for:

- Local gas grids
- Local electricity grids
- Steam generation

Go to Agrogaz.com

Sustainable solutions



integrated management of organic matter

OBJECTIVE:



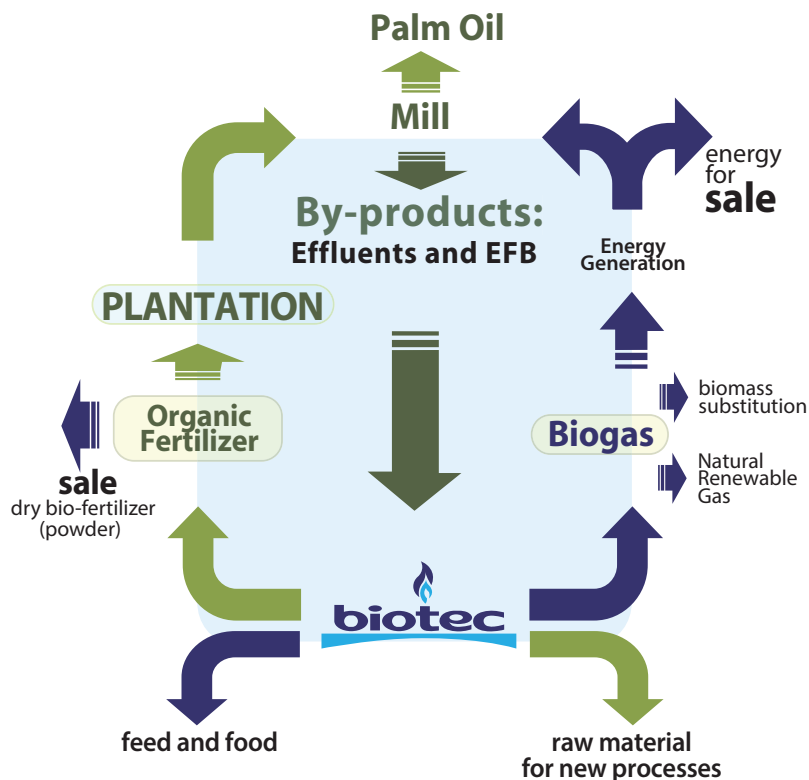
ENERGY VALUE:

$$\frac{15 \frac{\text{m}^3 \text{CH}_4}{\text{T FFB}}}{\text{US\$ } 5 / \text{T FFB}} \quad \frac{60 \frac{\text{kWh}}{\text{T FFB}}}{\text{US\$ } 5 / \text{T FFB}}$$

FERTILIZER VALUE:

$$\frac{1 \frac{\text{kg N} + \text{macro/micro nutrients}}{\text{T FFB}} + \text{organic matter}}{\text{US\$ } 5 / \text{T FFB}}$$

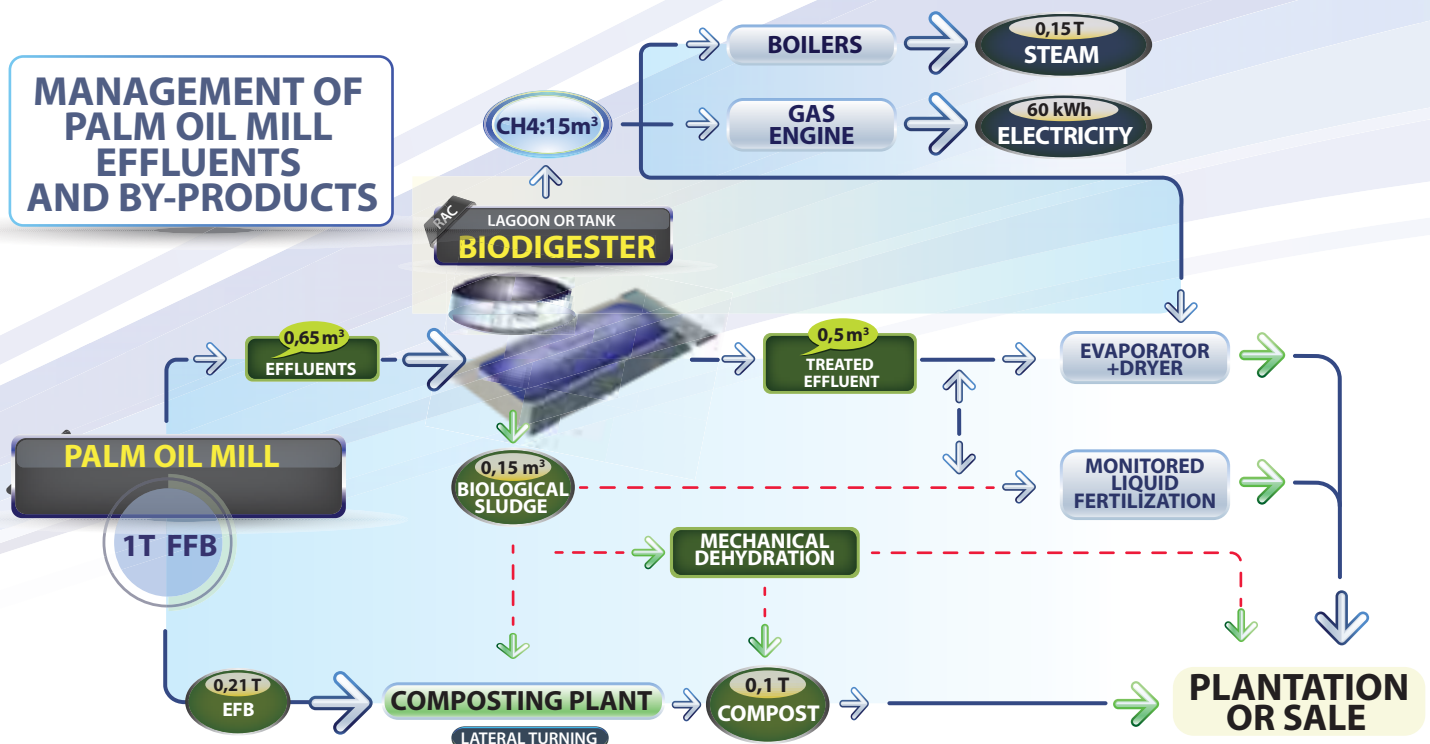
Process cycle



Our achievements and references

Over the past 36 years, we have successfully implemented projects worldwide, turning POME into valuable co-products.

More than **28**
POME
biogas plants
around the world



OUR TECHNOLOGIES

LAGOON BIODIGESTER



TANK BIODIGESTER



COMPOST PLANT



EFFLUENT EVAPORATOR+DRYER



ORGANIC FERTILIZATION



LIQUID

SOLID

BIOGAS FOR STEAM/ELECTRICITY



OUR SERVICES

CONSULTANCY

- Feasibility Study (= Conceptual Engineering): Evaluation of the best byproducts management options for each mill
- Rescue: Evaluation and improvement of current treatment solutions
- Big Data: Set up of KPI for byproducts management – KPI follow-up – Management tools

EXECUTION EPC (Engineering, Procurement, Construction/Commissioning)

- On a turnkey basis
- On a partial turnkey basis
- Engineering + Project Management

OPERATION AND MAINTENANCE

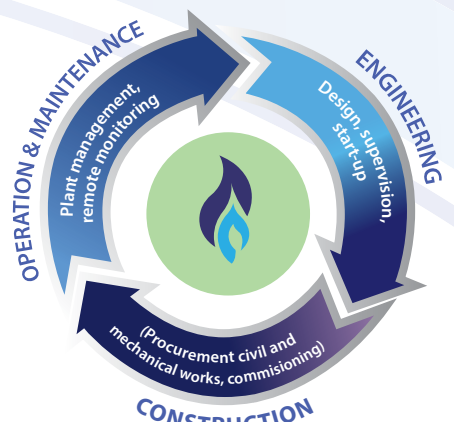
- Full operation team x 2 years
- Chief of Plant x 2 years
- Remote monitoring (scada + data sheets)
- Plant audit, operation improvement



CONTROL WITH SCADA

ELECTRICAL ROOM

PROJECT CYCLE





since 1984

36 years of experience

EFFLUENTS AND BY-PRODUCTS TREATMENT / VALORIZATION

- Renewable energy generation
- Organic fertilizer production
- Animal feed production
- Zero discharge

contact us



SOUTH EAST ASIA

Setia Walk, C-10-2 Block C,
47610 Puchong, Selangor
Malaysia

malaysia@bio-tec.net

BELGIUM

Rue Louis de Geer, 6
B-1348, Louvain-La-Neuve
Belgique

belgique@bio-tec.net

LATIN AMERICA

Finca Yambo, km 3, La Buitrera
Cali, Colombia

colombia@bio-tec.net

BELGIUM | INDONESIA | MALAYSIA | COLOMBIA