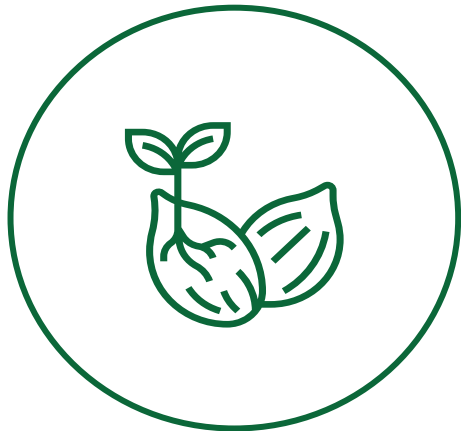


APPLICATION OF BIO-CNG TECHNOLOGY IN INDONESIA

Zero Emissions Palm Oil Industry

REDUCE TO **ZERO** THE EMISSIONS OF PALM OIL INDUSTRY



STATE OF THE ART

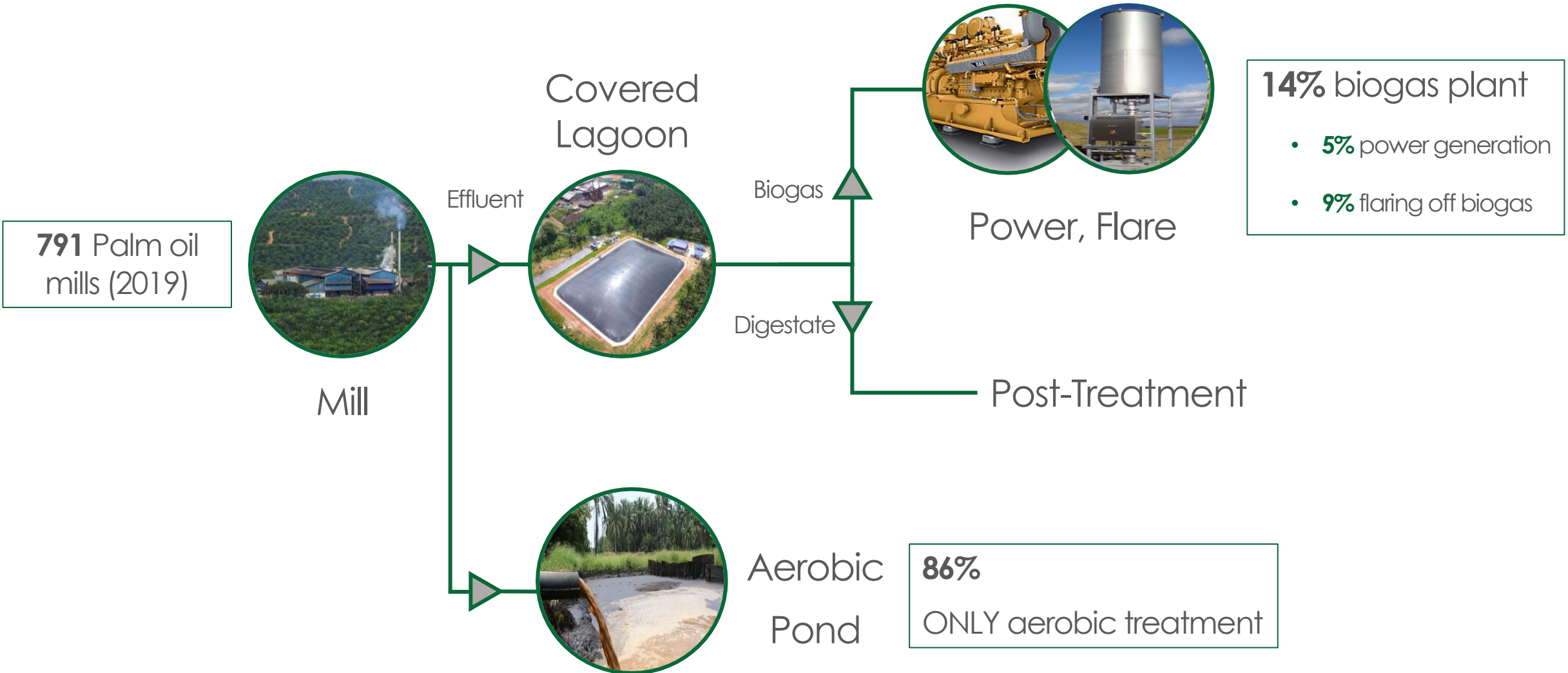
Indonesia is the world's largest producer of **palm oil** (13 million hectares)

To reach a **sustainable growth**, the industry needs to decrease GHG emissions and reduce dependency from **diesel**



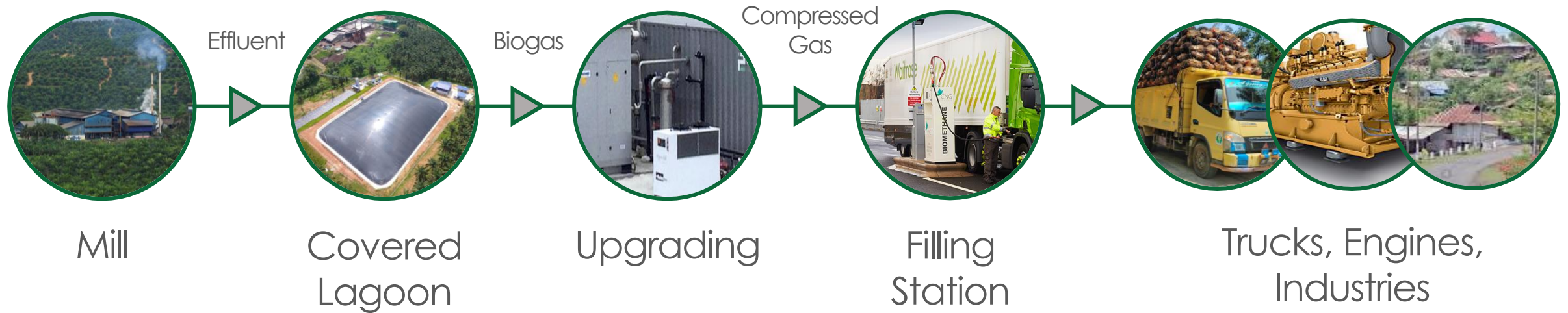
palm oil mills in Indonesia

STATE OF THE ART



PROGRAMME CONCEPT

Use of palm oil effluent to generate **bio-fuel**

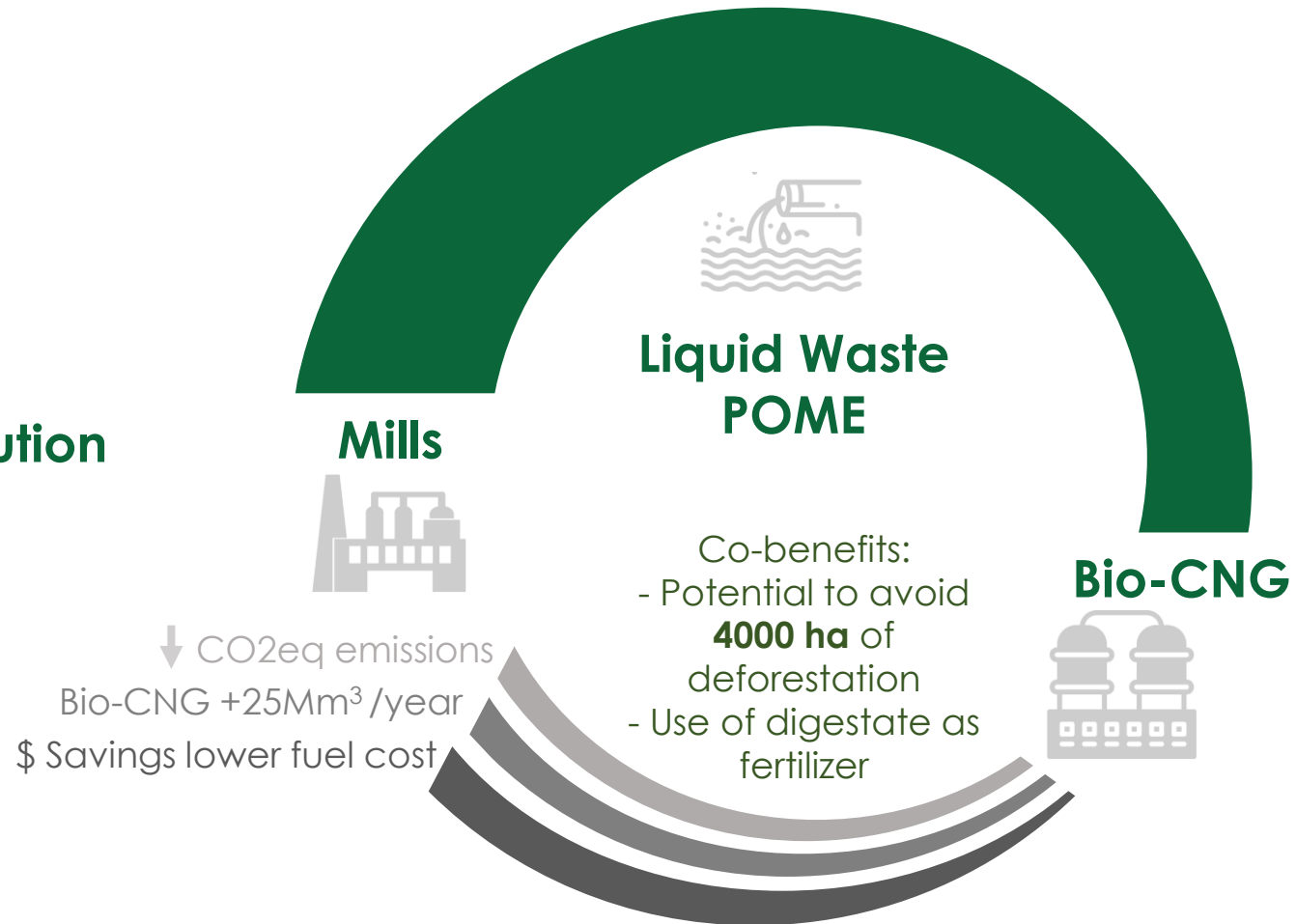


PROGRAMME

Circular Economy

2.2 MLN barrels diesel substitution

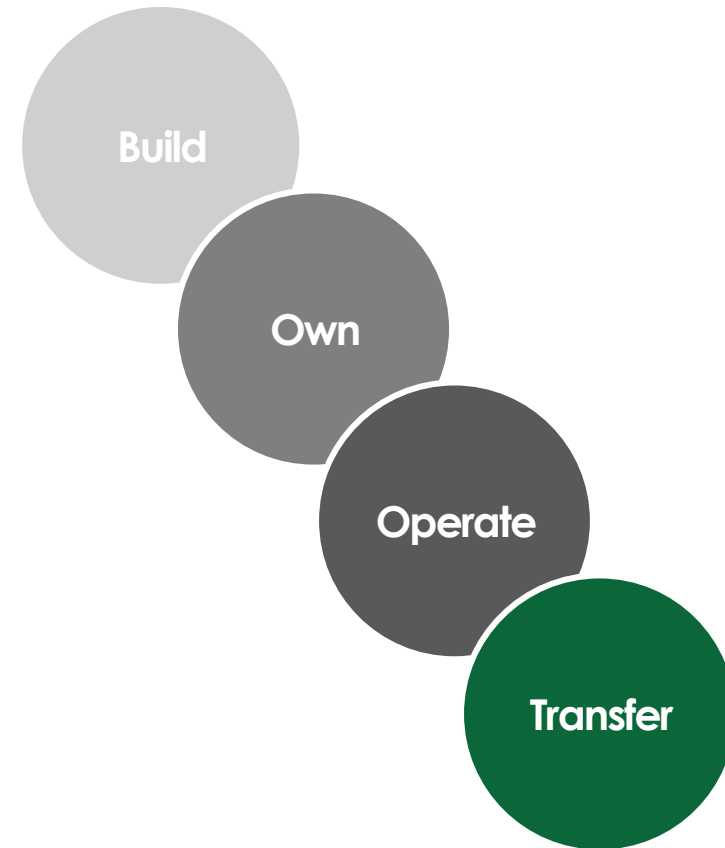
14 MLN ton CO₂ avoided



BARRIERS

- 1 High Investment
- 2 New concept in Indonesia
- 3 Different priorities
- 4 Lack of off-taker
- 5 Regulatory uncertainty
- 6 Biogas to electricity not feasible

SOLUTION



ENVIRONMENTAL BENEFITS



Sustainable
Growth



Open up new markets

Comply with regulation

CO₂ emission reduction

Reduce use of fossil fuel



More
Profit

MILL PERSPECTIVE

Investment

USD 0

SAVINGS: **2M USD** diesel purchase (during BOOT)

SAVINGS: **100% fuel expense** (after BOOT)

Technology transfer and ZERO EMISSION

Fixed diesel equivalent price: at least **20% less than market price**

14M ton CO₂ REDUCTION

15M liters/year BIODIESEL REPLACEMENT – SUBSIDIES SAVING

4,000Ha PLANTATION EQUIVALENT

ZERO EMISSION PALM OIL INDUSTRY

DEVELOPERS



Consulting company active in South East Asia for the development and implementation of renewable energy projects.



French company, World market leader, since 1990 specialized in the treatment and recovery of biogas from organic waste.

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