**PROJECT OVERVIEW**

Design of a dimethyl ether (DME) production plant from empty fruit bunch (EFB) in Kampar, Riau, Indonesia to be used as an additive to LPG for household fuel.

- **Location**: Kampar, Riau, Indonesia
- **Production Capacity**: 356,000 tonnes per year

**SOCIETAL NEEDS**

- Meets Indonesia’s National Energy Master Plan targets
- Reduce LPG imports by 6%
- Locally produced energy source

**PLANT LAYOUT**

- Plant Details
  - Plant life: 20 years
  - Construction: 3 years
  - 8,100 operating hours per year

**ECONOMIC ANALYSIS**

- **Total Capital Cost (TCC)**
  - Direct Cost: 60.9%
  - Indirect Cost: 12.4%
  - Contingency: 7.4%
  - Legal Expense: 4.4%
  - Working Capital: 14.9%
  - Total Capital Cost: CAD 787 million

- **Annual Operating Cost**
  - Variable Costs: 27%
  - Fixed Costs: 53%
  - Overhead: 20%
  - Total Annual Operating Cost: CAD 137 million

- **Revenue Sources**
  - DME Sales: 79%
  - Steam Sales: 21%
  - Average Annual Profits: CAD 149 million

**ENVIRONMENTAL ANALYSIS**

- **Emissions**
  - Off-site purification and compression
  - CO sold to steel plants
  - CO2: storage and utilization
  - H2S: sold to sulfuric acid plants

- **Waste**
  - Biochar: sold to farmers for fertilizer use
  - Wastewater: in-house steam generation

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