



# “Intelligent Process to Energy integration through Hybrid Solutions”

## Coal to Energy Pyrolysis – 2 to 50 Mw Generation Blocks

AEC’s experience in Process and Energy sectors has given us a unique insight into the modern day process facility. AEC developed an understanding of the desperate need for clients to power their rural facilities while keeping OPEX cost at bay. Consequently AEC in partnership with class leading Pyrolysis process specialists PCE (Pyro Carbon Energy) uncovered what we believe is the ultimate CAPEX vs. OPEX energy solution.



**Bankable 40 ton per day facility**

Capital Cost : \$ 13 190 000.00  
\$ 1.67 per Watt

Lifecycle: 20 years  
Annual Coal Consumption: 38,5 kTons



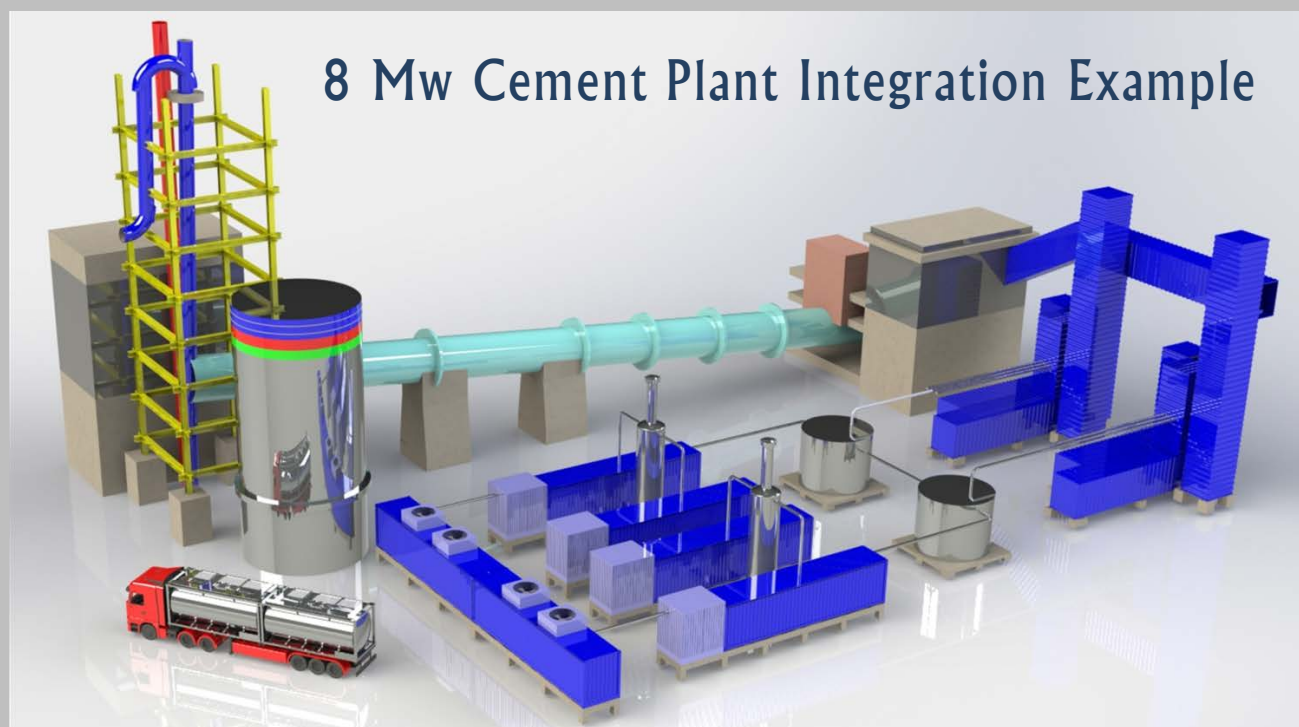
Finance Period: 10 years  
Payback: 6.25 years  
IRR : 21%  
\$ 0.10 per kWh

## Coal to Power Generation

This solution is a diesel generation alternative beyond compare. Utilizing a coal to heavy Fuel (HFO) pyrolysis process it offers the best of both worlds. Carbonaceous Hydrocarbon Recovery (CHR) technology converts volatile-rich carbonaceous material to valuable energy products. At the heart of the CHR technology is a multi-stage continuous moving bed Pyrolysis reactor. Mild temperature of the upper stages pyrolysis produces superior quality oil products which contain little or no residue material. These quality oil products are directly utilize for the primary fuel for HFO generators.

## Energy Yield

Energy Yield is determined by the quality and type of coal feedstock available. AEC offers the client a risk free approach to ensure bankability. Below is the SGS certified approach for yield determination.



### 8 Mw Cement Plant Integration Example

- 25 Kg Coal Sample
- Bench-top laboratory test
- Proximate Analyses
- Coal Performance Test
- Desktop Process Analysis
- Coal per ton KWh estimation
- 10 Ton per day performance test
- SGS official certification
- Physical Fuel Oil Analysis
- HFO machine test