

## CASE STUDY : FUEL CONVERSION

### RETROFIT 500KVA CUMMINS KTA-19 DIESEL GENERATOR INTO DUAL FUEL GENERATOR IN TEXTILE MANUFACTURING FACILITY

CLIENT: ABHITEX INTERNATIONAL  
FACILITY: TERRY TOWELLING UNIT  
LOCATION: PANIPAT, HARYANA

#### THE NUMBERS

TOTAL SAVINGS IN YEAR 1: ₹ 6.17 LAKHS

NO<sub>x</sub> EMISSION REDUCTION: 58%

CO<sub>2</sub> EMISSION REDUCTION: 6.8 TONS

AVG. SAVINGS PER kWh: ₹ 4.92



*“Energeia has helped us reduce our diesel fuel consumption by 28%”*

Abhishek Paliwal, Director, Abhitex International

#### CLIENT

- A textile manufacturer with annual revenues exceeding \$64 Million and over 4,000 employees, Abhitex International has begun its journey to sustainability with a fuel conversion project
- Abhitex International faces a power cut for ~ 400 hours in year. During the power cut, they had to rely on the expensive and polluting Diesel Generators for continuing their production
- Number of opportunities to decrease costs and emissions of onsite Energy and Heat production processes. Limited access to Natural Gas based technologies and CAPEX limitations prevent client from exploring these opportunities
- Energeia converted one 500 kVA Diesel Generator to a Dual Fuel Generator, lowering annual operational fuel costs by ₹ 6.17 lakhs (28.1%)

## CONTEXT

Panipat is one of the largest textile clusters in India. The textile units are involved in manufacturing of cotton durries, carpets (woollen, cotton based and synthetic); furnishings (bed covers, cushion covers, mats, etc.), woollen blankets, and cotton and woollen yarns. A majority of the manufacturers are concentrated in industrial areas in Haryana Urban Development Authorities (HUDA) in Sector 25 (I & II) and Sector 29 (I & II) and Panipat Industrial Area.

## CHALLENGE

Although reliability of the grid connected power has improved, still different units face 300-500 hours of annual power cuts, forcing factories to resort to Diesel Generators (DGs). Typically, DGs make up 5% of the annual power supply to any given Industry.

With Natural Gas now available in Panipat through Indian Oil and Adani Gas (IOAGPL), Industries are looking for opportunities to tap this cleaner and cheaper fuel. Replacing Diesel with PNG would generate savings in any equipment, but most of the equipment (Boilers/Thermic Fluid Heaters) are running on Coal.

Usually, Industries are not aware that operational fuel costs can be reduced in Diesel Generators. All Industries have an Annual Maintenance Contract (AMC) with one of the generator service companies. These companies do not educate the customers about the ways in which they can reduce operational fuel costs. With rising Diesel Costs in September 2018, Abhitex International started to look for alternatives.

## SOLUTION

- Energeia provided an end-to-end solution to convert Abhitex International's 500 KVA Cummins KTA-19 Generator into Dual Fuel including pipelining and Natural Gas safety and financial due-diligence support.
- Energeia executed this project on a Shared Savings Model (ESCO Model)
  - Energeia and Abhitex International shared the CAPEX investment 50:50
  - Savings generated by the solution were shared 50:50 for a tenure of 4 yrs
  - Monitoring and Verification of Savings was provided by Electrical as well as Diesel and Gas Flow Meters connected to Energeia's EMS Platform
- This model kept both Abhitex International and Energeia equally invested in the project

## RESULTS

- **DIESEL SAVINGS WORTH ₹ 6.17 LAKH IN THE FIRST YEAR, LOWERING BACK UP ENERGY COST BY ₹ 4.92 PER KWH ON AVERAGE**
- **REDUCED NOX BY 58% AND CO2 EMISSIONS BY 6.8 TONS**
- **NO PILFERAGE OF FUELS, AS CONSUMPTION WAS BEING DIGITALLY MONITORED**
- **4 MORE 500 KVA DIESEL GENERATORS ARE BEING CONVERTED BY ENERGEIA FOR ABHITEX INTERNATIONAL**