CLUSTER PROFILE

FARIDABAD MIXED ENGINEERING CLUSTER

Background

One of the largest and fastest growing MSME clusters in India is located in Faridabad, Haryana. Faridabad is located just 25 km away from Delhi, and is well connected to the rest of the country by rail and road. The development of the Faridabad industrial cluster began in the 1950s, when a number of large-scale industries were established in the town to manufacture tractors, auto parts, shoes, etc. Many MSMEs were set up to cater to the needs of these large-scale plants for products and processes like castings, auto components, electroplating, heat treatment, etc. Since then, many more large-scale industries have come up in Faridabad/ Delhi–NCR, accompanied by a corresponding increase in the number of MSMEs. The development of the Faridabad industrial estate has been catalyzed by Haryana Government bodies such as Haryana State Industrial Development Corporation (HSIDC), Haryana Urban Development Authority (HUDA), and the Directorate of Industries and Commerce. Also, a number of private developers like DLF have developed industrial plots with suitable infrastructural facilities in the Faridabad area. The number of MSMEs in the cluster registered a sharp increase from 2006–07 onwards, following the signing of an MOU between the Japanese and Indian Governments that year for the Delhi–Mumbai Industrial Corridor (DMIC) Project which passes through Faridabad. Today, Faridabad is one of the leading light engineering industrial clusters in India. There are an estimated 12,015 MSME units in the cluster, of which 38% are micro units, 59% small scale, and 3% medium scale units.

Inside a rubber unit

Size-wise distribution of MSMEs in Faridabad		
Micro	4,612	38 %
Small	7,039	59 %
Medium	364	3 %
Total	12,015	100 %

About 60% of all the MSMEs in the Faridabad fall under three broad industry segments— automobile parts (35%), sheet metal components (14%) and fabrication (11%). The other major industry segments include castings, chemicals & paints, electroplating, forging, heat treatment, industrial fasteners, plastic products, railway equipment, rubber products, and textiles. A large number of the MSMEs function as vendors to Original Equipment Manufacturers (OEMs) in the automobile sector such as Escorts, Mahindra, Eicher, Yamaha, Maruti, Honda Siel Cars, New Holland, etc. The Faridabad cluster has an estimated annual turnover of over one trillion rupees (Rs 106,668 crores), and provides employment to over 0.8 million people.

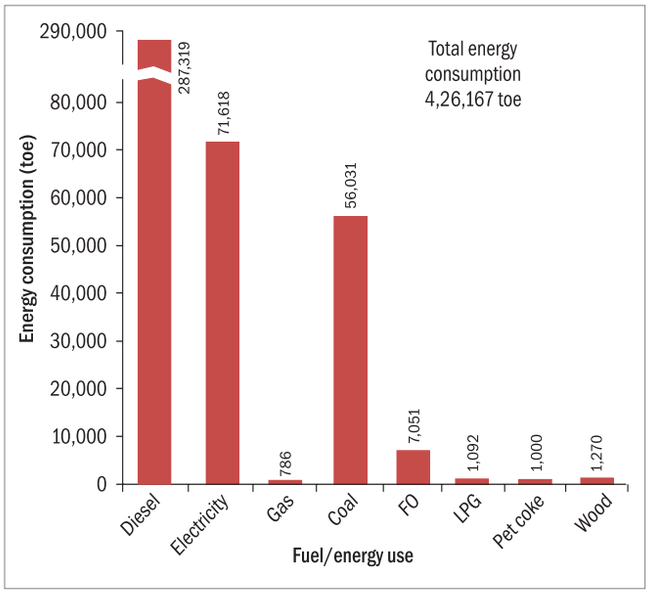
There are over 10 industry associations in Faridabad, comprising a mix of location and industry specific segments. Some of the major associations are: Faridabad Small Industries Association; Faridabad Chamber of Commerce and Industry; DLF Industrial Association; Faridabad Foundry Association; Faridabad Industries Association; and Faridabad Plastics Association. Other major cluster-level stakeholders and their primary roles are listed below.

- Dakshin Haryana Bijli Vitran Nigam (DHBVN)—local power utility
- Adani Gas Ltd (AGL)—piped natural gas supply utility
- HUDA and HSIDC—development of industrial estates, approvals for plot usages, financial services, etc.
- Academic and R&D institutions—IIF, Faridabad chapter; Manav Rachna International University (MRIU), Central Mechanical Engineering Research Institute (CMERI); and Regional Labour Institute (RLI)
- Technology providers, local consultants and fabricators who manufacture and install different kinds of equipment.
- Financial institutions—around 25 banks, including

SIDBI, operating in the cluster with a total of over 70 branches.

Technology status and energy use

The MSMEs in Faridabad use a wide range of raw materials, equipment, machinery, and processes, depending on the different industry segments to which they belong. The erratic power supply from DBHVN poses a major challenge to the MSMEs in Faridabad. In order to ensure electricity supply during the frequent and lengthy power outages, almost all the MSMEs have installed DG sets. Besides electricity, the main energy sources are diesel, furnace oil, LPG, pet coke, wood, and gas. The total energy consumption in the Faridabad cluster is estimated at about 426,167 (data for 5,347 units) tonnes of oil equivalent (toe) as shown in the figure.



Estimated energy consumption in Faridabad cluster

Options for energy saving

Energy costs account for a significant portion of manufacturing costs, varying from just over 2% in fabrication units to over 44% in foundry units. While a number of units have taken measures to upgrade their technologies—often through their own innovations—there exists potential to improve the energy efficiency of the existing systems and processes as summarized below.

Key energy conservation options in Faridabad cluster

S.No	*Option*	*Energy Saving Potential*
Thermal/Utility Side		
1	Refurbishment/repair of insulation/refractory for furnaces & boilers etc.	Low
2	Installation ofVFD in the re-circulating water pumps	Low
3	Air pre-heater for normalizing/hardening furnace	Medium
4	Waste Heat recovery in furnaces by using recuperator	Medium
5	Condensate recovery in boilers	Medium
6	Excess air control in the furnace & boiler	High
7	Fuel switch from FO to PNG/Electricity	High
8	Furnace temperature based control system	High
Electrical system and utility		
1	Optimising pressure setting of air compressor	Low
2	Replacement of inefficient air compressor with energy efficient compressor	Medium
3	Application ofVFD on compressors	Medium
4	Arresting air leakage in the compressed air network	Medium
Process level interventions		
1	Vertical Torque Drive (VTD) for different machines	Low
2	Installation of automatic band saw cutting machine	Medium
3	Reduction in container metal (design modification to reduce the weight)	Medium
4	Replacement of arc welding machines with inverter based welding machine	High

Compiled by TERI (with inputs from DESL in July 2014) from 'Cluster Profile Report: Faridabad Mixed Engineering Cluster', prepared by DESL in 2012 under the World Bank–GEF–SIDBI project titled 'Financing Energy Efficiency at MSMEs'