

# Energy Efficiency Enhancement in SMEs – Experiences gained on Cultural Issues

**Asia Clean Energy Forum  
Manila, Philippines, 15-19 June 2015**

**17 June 2015**



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# About the Project

- World Bank-GEF “Financing Energy Efficiency at MSMEs” project (US\$ 11.3 Million) implemented by SIDBI & BEE
- Objective: Increase demand for energy efficiency investments in targeted MSME clusters and build their capacity to access commercial finance

Ph-I

- Cluster profiling

Ph-II

- Walk through audit - 400 SMEs

Ph-III

- Detailed energy audit -250 SMEs leading to investment grade report

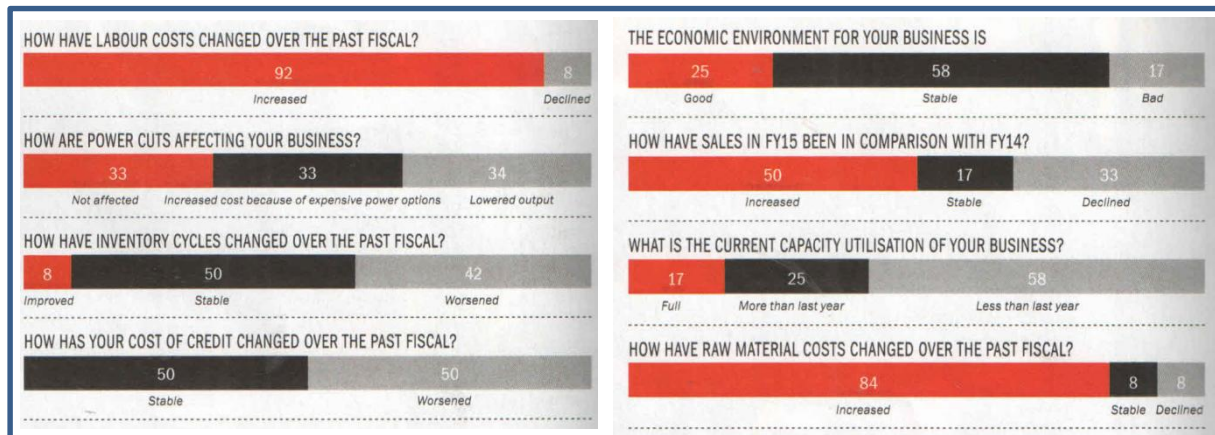
Ph-IV

- Providing implementation support to at least 200 units

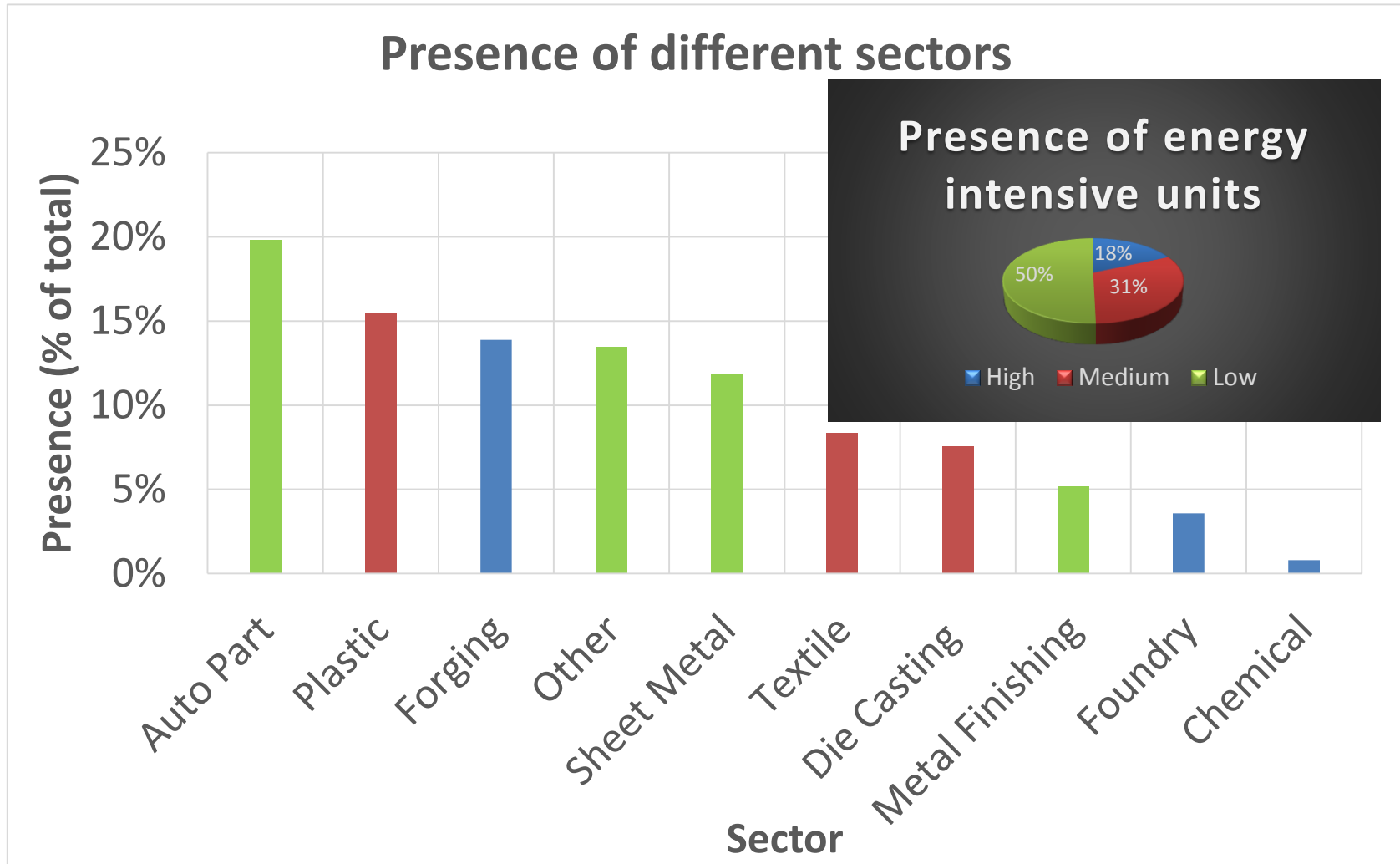


# Cluster – Faridabad

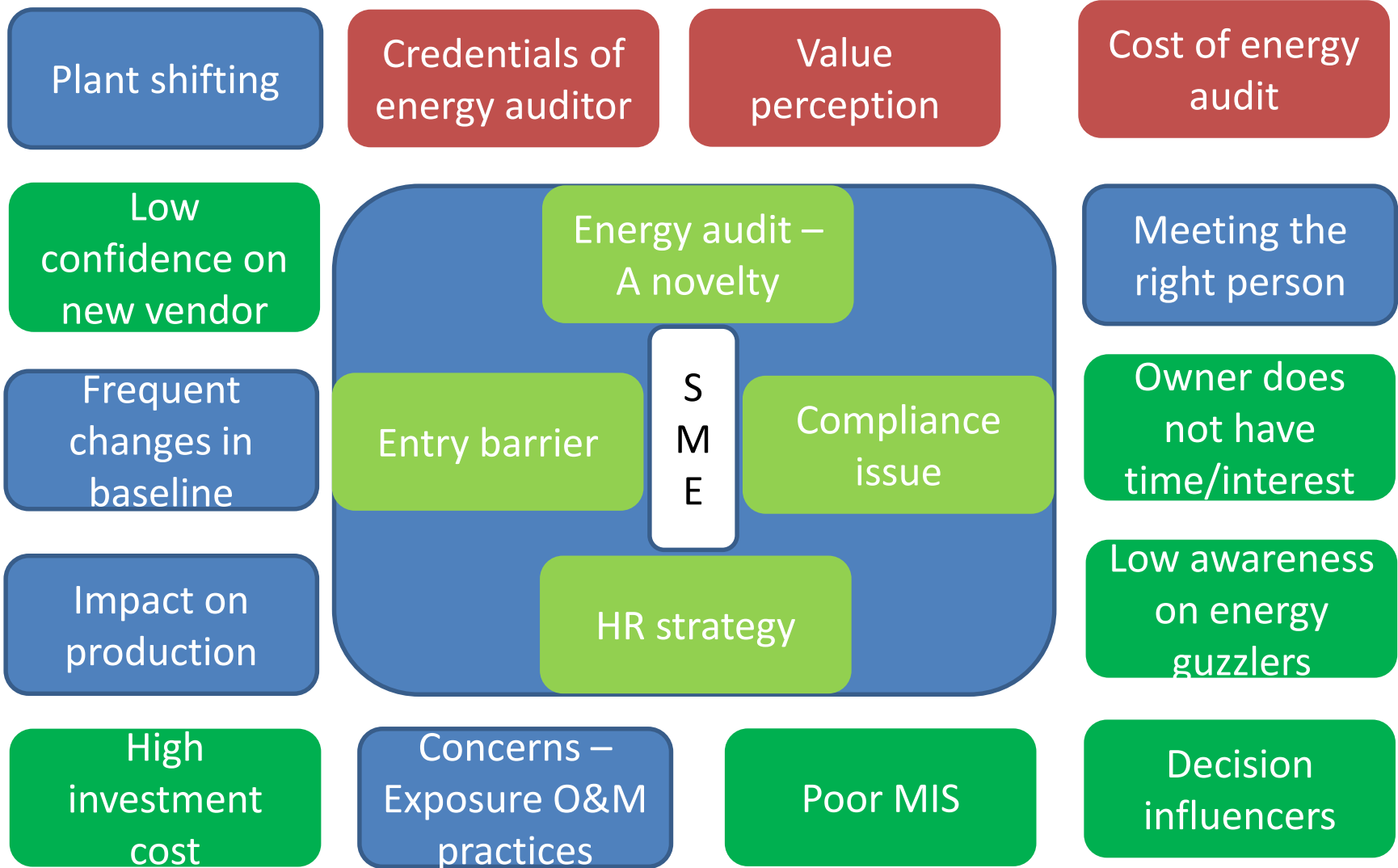
- Faridabad - an industrial city, 25 km from Delhi, the capital of India
- Automobile manufacturing majors like Escorts, Eicher spurred rise of SME units in the 1950s
- Today, a mixed engineering cluster with 17,186 SME units over 31 km<sup>2</sup>
- Estimated turnover-over US\$ 20 Bn
- Ownership: group companies (44%) and single companies (56%)



# Profile of the cluster



# SME – Cultural issues



# Low energy intensive unit with low interest in energy efficiency

SME unit carrying out job work of electroplating/metal finishing; annual energy bill of USD 30,000



Owner did not show interest and did not spare time

Refrain from using the “audit” term and identification of no cost measure during WTA



Welcomed the detailed energy audit team and extended full cooperation



Uncertainty of actual savings after implementation

Revalidation of implemented measures

# Low energy intensive unit with high interest in energy efficiency

- SME unit (part of a group) manufacturing sheet metal components; annual energy bill of USD 80,000



Owner delegated competent staff to coordinate with energy audit team

Smooth transfer of data and completion of WTA



High interest from plant head on energy audit process and implementation of findings

Joint effort to conduct audit and identify energy conservation opportunities



Low confidence on non-local and new vendors

Conduct validation of new vendor's product during demo and gain confidence



# Medium energy intensive unit with low interest in energy efficiency

- SME textile unit (part of a group); annual energy bill of USD 1 Mn



Owner's perception that the plant is operating at optimum efficiency level

Identification of clearly visible energy cost saving measure



Owner expresses ignorance of major energy consuming areas and concerns about impact of audit process on production

Provided machine level consumption estimates and suggested a system to monitor regularly



Post implementation of accepted energy conservation measures, he seeks a re-audit even on paid basis

DESL established as a reliable partner

# Medium energy intensive unit with high interest in energy efficiency

- SME plastic moulding unit (part of a group); annual energy bill of USD 65,000



Owner has delegated competent staff to coordinate with energy audit team

Smooth transfer of data and completion of WTA



Plant head welcomes the audit team with periodic review by owner

Joint effort to conduct audit and identify energy conservation opportunities



Successful implementation of innovative project leading to energy as well as productivity improvement

Combined interventions on energy, lean production and quality improvement

# High energy intensive unit with low interest in energy efficiency

- SME forging unit (part of a group); annual energy bill of USD 1 Mn



Several energy audits done; all of which under delegation to plant head

Team conducts energy audit and presents findings to plant head



Plant head -low priority to implementing audit findings

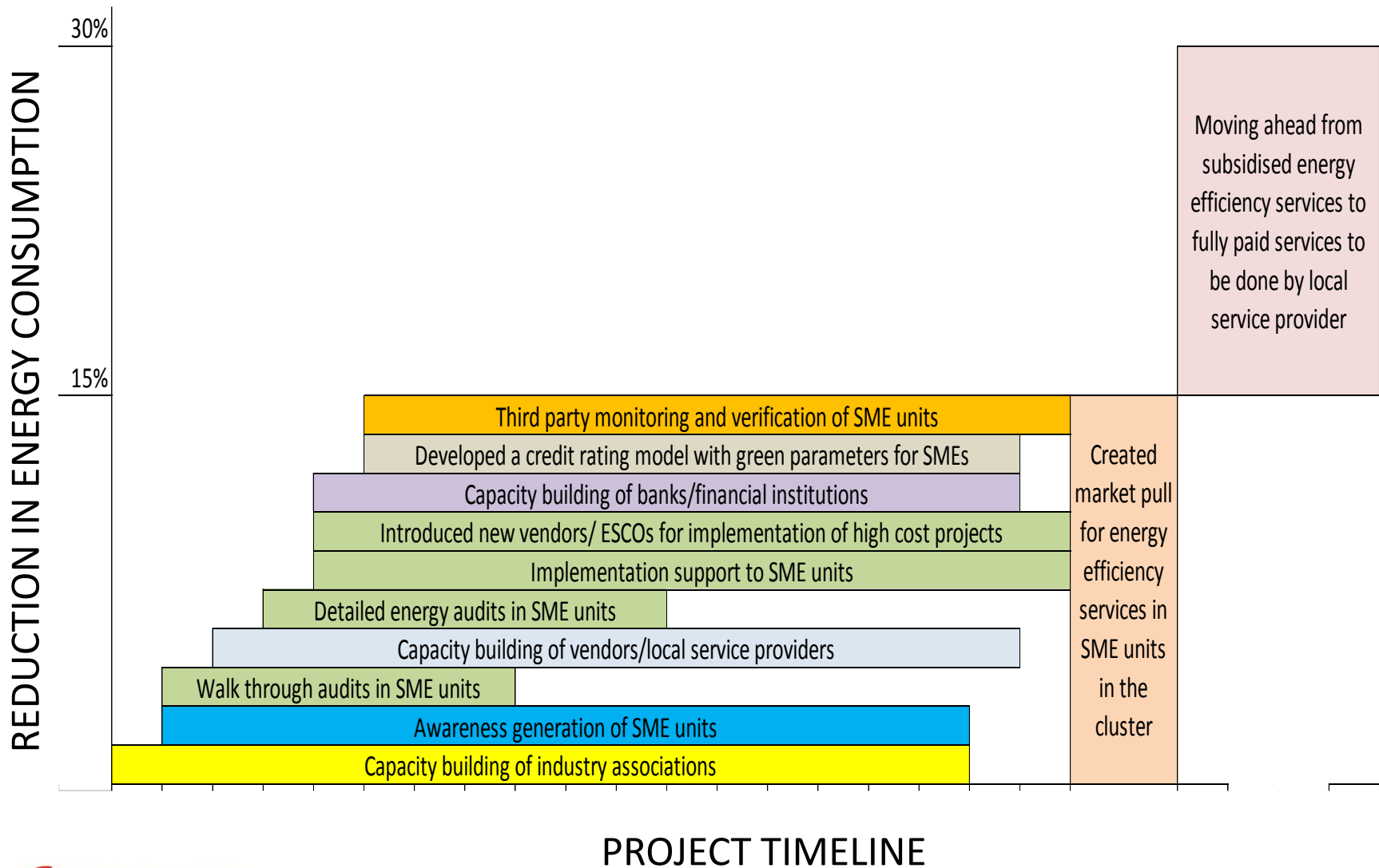
Team reviews with Owner, infuses interest and embarks on regular & ambitious projects



Implementation assigned to in-house design engineer – reluctance to implement new design

DESL engaged continually to build confidence

# Summarising





# Thank You

With sincere acknowledgement to key stakeholders -  
World Bank, SIDBI, BEE and Participant SME Units



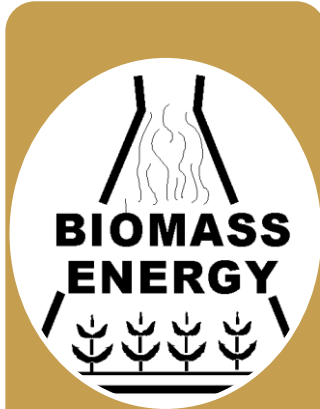
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# DESL Credentials

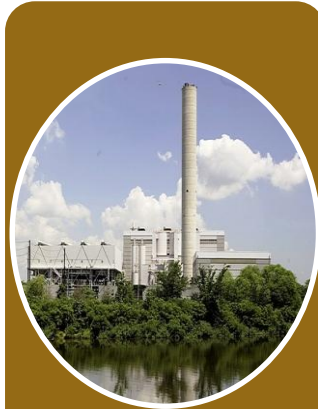


## ENERGY EFFICIENCY

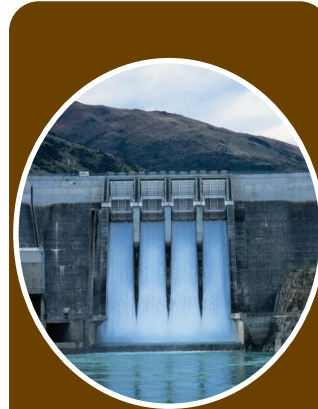
Enabled energy saving of approx 200 MW in commercial buildings, industries and municipal facilities



Designed and Engineered over 500 MW of biomass based power plants and cogeneration



WTE  
Designed and engineered 34 MW solid waste to energy plant



SHP  
Due Diligence & Project development for 250 MW of hydropower



SOLAR  
400,000 LPD solar water heating in industrial processes  
Distributed SPV systems

Over 4 million tons of GHG emissions off-set