



**Presentation on**  
**RESOURCE CONSERVATION & MANAGEMENT**  
**(RCM)**

**A FICCI Initiative**



# FICCI Vision & Mission



## Vision

- To be the thought leader for industry, its voice for policy change and its guardian for effective implementation

## Mission

- To carry forward our initiatives in support of rapid, inclusive and sustainable growth that encompasses health, education, livelihood, governance and skill development.
- To enhance efficiency and global competitiveness of Indian industry and to expand business opportunities both in domestic and foreign markets through a range of specialized services and global linkages.

We listen

We analyze

We influence

We connect

# About FICCI



- Established in **1927**, **largest and oldest** apex business organization in India
- **Non-government, not-for-profit** organization
- Serves members from **Indian private and public corporate sectors**, as well as multinational companies and draws strength from **diverse regional chambers of commerce and industry** across states
- Engages with over **250,000 companies**
- Provides **platform for networking and consensus building** within and across sectors
- Primary **liaison** for Indian industry, policymakers, and international business community

***I do not for a moment believe that commercial prosperity is incompatible with strict honesty.***

*Mahatma Gandhi at FICCI's 4th AGM, 1931*



# About RCM Department



- The RCM (Resource Conservation & Management) is a technical wing of FICCI
- provides integrated technical consultancy services to industries to enhance their competitiveness, particularly through :
  - Sustainable use of the resources (Energy, Water etc.)
  - Energy transition, decarbonisation
  - Water conservation, water neutrality
  - Cleaner production, waste minimisation
  - Improving Occupational Safety & Health etc.
- RCM Group has inhouse experts and consultants including Accredited Energy and Water Auditors
- Also has potable & latest Instruments to conduct Resource Conservation & Environmental Projects.

# RCM Objectives

To support Indian Industries and other stakeholders to



**ENHANCE  
RESOURCE  
EFFICIENCY**



**IMPROVE  
ENVIRONMENTAL  
PERFORMANCE**



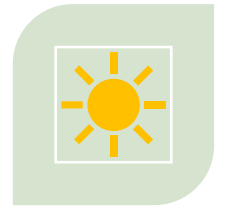
**MEET  
ENVIRONMENTAL  
COMPLIANCE**



**IMPROVE  
PRODUCTIVITY  
AND COST  
REDUCTION**



**PROMOTE  
OVERALL  
SUSTAINABILITY  
& ACHIEVE SDG  
GOALS**



**DECARBONIZE  
THROUGH  
ENERGY  
TRANSITION**

## Energy Audits

- Mandated by the [Energy Conservation Act \(EC Act\) 2001](#).
- Large (Designated consumer) industries must conduct Mandatory Energy Audit & Monitoring & Verification audits, once in 3 years.

## Water Audits

- Mandated by **Ministry of Jal Shakti notification**.
- Date of [Notification](#): 24th September 2020.
- Industries abstracting groundwater exceeding 100 m<sup>3</sup>/day must conduct water audit, once in 2 years, through certified auditor accredited agencies like FICCI.

# Government Accreditations



- An ***Empaneled Accredited Energy Auditing Organization*** with Bureau of Energy Efficiency (BEE), Ministry of Power, Government of India for Conducting Mandatory Energy Audits and M&V Audits under Energy Conservation Act 2001
- ***Notified as Recognized Water Auditing Organisation*** by Central Ground Water Authority (CGWA), Ministry of Jal Shakti, Government of India



# RCM Team Strength



**Qualified & experienced inhouse experts in environment management , energy efficiency, water conservation and sustainability domains**

**Government of India Accredited energy & water auditors**

**ISO certified professionals in environment, energy & water conservation domains**

**Pool of several empanelled experts from different industry sectors, engaged as required**



# Services Offered



**Energy Efficiency &  
Demand Side Management**



**Water &  
Wastewater Audits**



**Environment  
Management,  
Health & Safety**



**National Level Studies  
& Policy Development**



**Training &  
Capacity Building**



## Energy Efficiency & Demand Side Management

**Energy Audits** for Energy Intensive Industries under EC Act 2001

Cluster Level Studies towards **Decarbonisation** in MSME's, large industrial sectors

**Demand Side Management** studies for utilities.

Evolving **Low Carbon Sustainability Plans**

**Establishing Project Management Cells-** for implementation of various government schemes

Dissemination of **National & International Cutting-edge Technologies for Energy Efficiency**



## Water & Wastewater Audits

**Water & Wastewater Audits** for Industries/ Commercial Building etc –to conserve water.

**CGWA Compliance water audits** -for NOC renewal for industries abstracting groundwater > 100 KLD.

**Audits** for Achieving Zero Liquid Discharge (ZLD), to become water neutral/positive.

# Saving Potential for Stakeholders



## Energy Studies:

**Energy Saving potential of 5-20% with payback periods less than 3 years**



## Water Studies:

**Reduction in Fresh Water consumption by 10-50 % with payback period < 2 years & Reduction in operating costs (like energy, chemical consumption) by 5-20%.**

# Sectors served



The team has successfully accomplished energy and water conservation studies for more than 1300 industrial units covering following sectors

- |  |   |
|--|---|
| • <b><i>Beverage</i></b>               | • <b><i>Oil &amp; Gas Exploration</i></b> |
| • <b><i>Building Complex</i></b>       | • <b><i>Oil Refinery</i></b>              |
| • <b><i>Cement</i></b>                 | • <b><i>Petrochemical</i></b>             |
| • <b><i>Chemical</i></b>               | • <b><i>Pharmaceuticals</i></b>           |
| • <b><i>Fertilizers</i></b>            | • <b><i>Power plants</i></b>              |
| • <b><i>Iron &amp; Steel</i></b>       | • <b><i>Pulp &amp; Paper</i></b>          |
| • <b><i>Mining</i></b>                 | • <b><i>Textile</i></b>                   |
| • <b><i>MSME sector industries</i></b> | • <b><i>Zinc, Aluminium</i></b>           |

# MSME cluster level Projects done for enhancing energy & water efficiency in MSME clusters

- Rice Mill cluster – Karnal
- Textile processing – Sonipat
- Garment , Auto-ancillaries, Cutlery Manufacturing – Kundli
- Brass Foundries – Jamnagar
- Steel Foundries – Kolhapur
- Steel Re-rolling mill- Tamil Nadu & Kerala
- Engineering Industries – Faridabad
- Textile dyeing & printing – Surat
- Engineering Industries – Pune
- Pulp & Paper, Meerut
- Sugar- Muzaffarnagar



Steel Foundry



## Environment Management, Health & Safety



**Environmental studies for improvements, evolving policies**



**Human Health Risk Assessment (HHRA) Studies to identify & improve on environmental impacts**



**Industrial Safety Audits and EHS Documentation**



**Cleaner Production and Waste minimization projects**

## Expert support to CPCB for Reducing Air Pollution in Delhi NCR Region

- FICCI provided its expert's service, to be part of a Technical experts committee formed by CPCB under NGT Direction
- The Air pollution by Brick Kilns operating in Delhi NCR region was studied
- Various field observations & measurements were conducted in few brick kilns using different technologies
- Root cause of air pollution were identified
- Recommendations were provided to reduce air pollution
- Technical analysis was done to help evolve viable solution to improve productivity of brick kilns along with reduction in Air pollution



Brick Kiln





## National Level Studies & Policy Development



- Studies on evolving Energy Consumption Benchmarks for evolving policy for various Industry Sectors



Evolving Environmental Regulatory Standards for Industry sectors (Rice Mills), Pan India



जल शक्ति मंत्रालय  
MINISTRY OF  
**JAL SHAKTI**

सत्यमेव जयते

Evolving Water Use Benchmarks and Accounting Guidelines for 18 Industrial Sectors



सत्यमेव जयते  
Government of Gujarat

Facilitating Multiplier Effect of Implemented Cleaner Production Options in Non-Ferrous SME Foundries in Jamnagar cluster



## National Level Studies & Policy Development



Setting up load-based emission standards for Industries for The Abdul Latif Jameel Poverty Action Lab (J-PAL) which is a global research center.



Scaling Up of Investments through ESCO Mechanism in 3 MSME Clusters by Deploying Standard Energy Efficient Technologies (SEET) in Haryana, for The Global Green Growth Institute (GGGI) which is a treaty-based international, inter-governmental organization.



- Promotion of micro solar water pumps for marginal farmers (Odisha, Jharkhand, Assam)
- Developing training modules on sustainable soil management in India.



Project for Energy Efficiency monitoring for Secondary RE-Rolling Mills for the United Nations Development Programme (UNDP) which is international development organization.



## National Level Studies & Policy Development



Canadian International  
Development Agency



**SHAKTI**  
SUSTAINABLE ENERGY  
FOUNDATION



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT

- Project on Capacity Building for Energy Manager
- Project on Indian Industry program for Energy Conservation for preparation of energy conservation sectoral taskforce for different sectors

“Capacity building of Vendors for increasing penetration of Energy efficient technologies in 5 MSME clusters

- Climate Works Foundation project on Capacity Building for Energy Managers & Auditors
- Project on Identification of Energy Efficient Technologies for Designated Consumers for achieving PAT Targets and conduction of Workshop.

UNIDO project for Facilitation of private sector development in India: Energy Efficiency Intervention in Pulp & Paper industries in India

# FICCI-SFI Project on Promotion of Micro Solar Water Pumps for Framers in Assam, Odisha and Jharkhand supported by GIZ



## Project Impact:

1. Awareness Generation through Campaigning and Technology Exposure Visits - ***Reached to more than 1400 Farmers for Propomtion of micro SWPs***
2. **Convergence with Existing Government Schemes – Horticulture & MGNREGA Scheme**
3. **Increase in Cropping Area and Addition of new crops**
4. **Improved Farmers Income more than 50% due to Saving of Fuel, Low Maintenance Cost, Increase in Irrigated Area, Change in activities and increased productivity.**



# FICCI-SFI Project on Sustainable Soil Management (SSM) supported by GIZ



- Prepared 10 nos. of SSM Training Modules for Farmers:
  - Collation of SSM measures adopted by Farmers community using available local resources in the State of Maharashtra and Madhya Pradesh
  - Easy to understand need-based capacity building training modules for farmers covering – Soil Health, Organic fertilizers, Composting & Manuring, Biopesticides, Agri-extension & Convergence, Soil & Water Conservation, Micro-Irrigation & Solar Pumping etc.



# FICCI Water Management Plan for Industries using groundwater under CGWA Notification

## Impact:

- **Awareness Generation and Capacity Building:** Reached to more than 1100 industries through webinars on CGWA notification requirements and water audit benefits.
- **Water Management Plan for reduction in groundwater abstraction by 20%:** Prepared water management plan for more than 400 industries to reduce water consumption and groundwater abstraction.





## Training & Capacity Building

### FOCUS AREAS

Advanced Technologies in Air Pollution Control & Monitoring	Plant Maintenance summit
Advanced Air handling Systems	Reliability of Electrical Systems
Cleaner Production/Technologies and Waste Management	Safety Management in Industries etc.
Corrosion Management	Thermal Insulation
Desalination and Membrane Technologies	Total Power Quality Management
Rainwater Harvesting & Groundwater Recharge	Water & Wastewater Management etc.
Recent Advancements in Combustion technology	

- **More Than 15,000 Professionals** Across Industry Sectors, Government & Regulatory Authorities Trained in Energy, Water, Environment, Occupational Health & Industrial Safety since 1999.
- **Around 450 international delegates** trained

# FICCI Clients (Member Organizations)



BHARAT FORGE



BOROSIL®



Cipla



हिन्दुस्तान पेट्रोलीयम कॉर्पोरेशन लिमिटेड  
Hindustan Petroleum Corporation Limited  
(A Maharatna Company)





# FICCI Clients (Member Organizations)



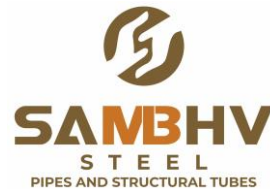
# FICCI Clients (Non-Member Organizations)



# FICCI Clients (Non-Member Organizations)



**PRISM JOHNSON LIMITED**



**TPR**



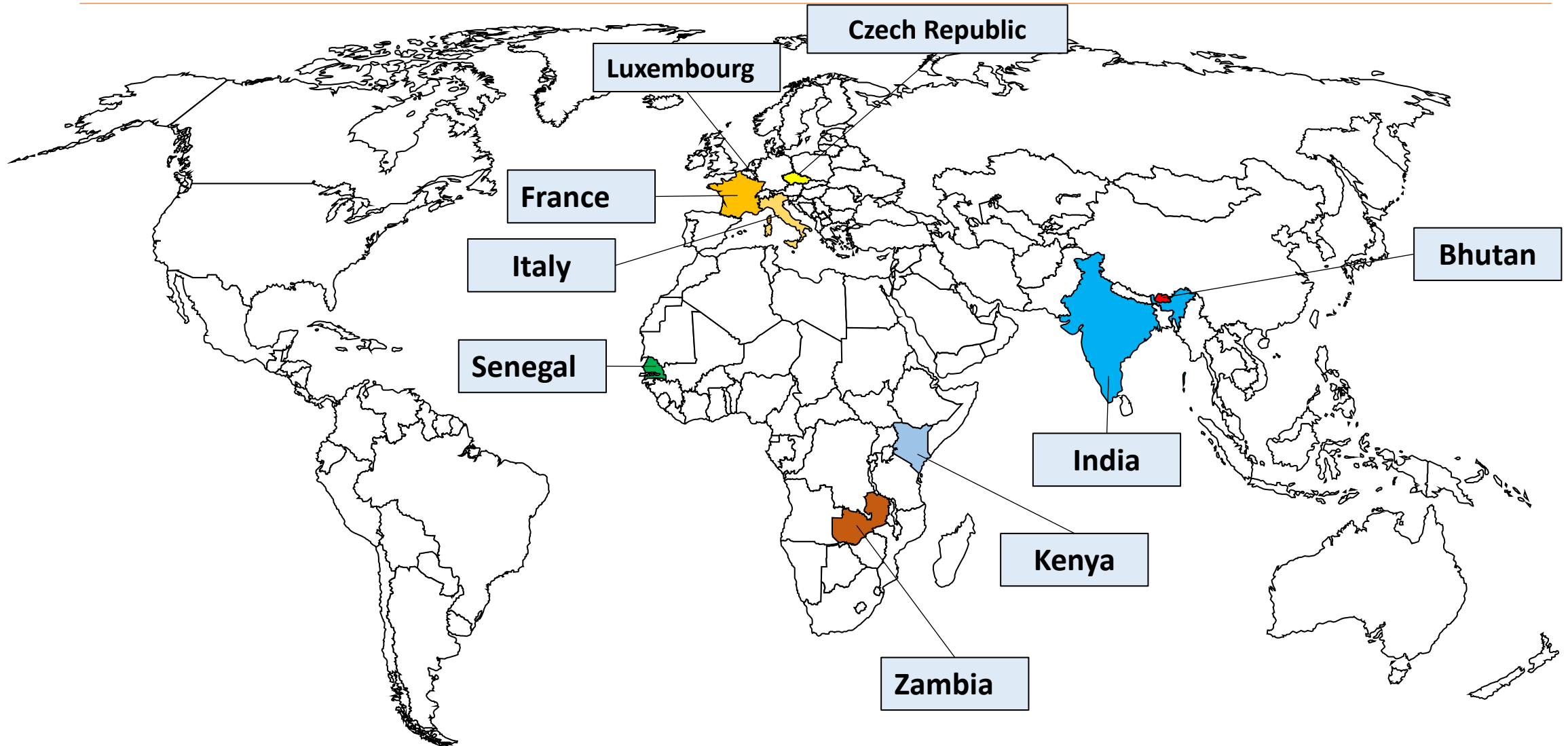
# Government & International Agencies



Canadian International  
Development Agency



# RCM Services- Global Footprint



# RCM Services: Benefits



Reducing Production Costs, by reducing energy & water bills, saving resources

Reducing water footprint, by conserving water, increased recycling of water, achieving ZLD

Achieving Sustainable growth through optimum use of resources and waste minimisation

Reducing greenhouse gas emissions by improving energy, water & resource use efficiency

Improving Occupational Health & Safety

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**Thank you!**

*Together, let's pave the way for a greener and more sustainable future!*