



News Letter IBMA - BOILER HOUSE.

Indian Boilers Manufacturers Association – IBMA, established in 1988, is a non-profit national organization representing India's boiler manufacturers and allied industries. It serves as a unified platform that promotes innovation, collaboration, and policy advocacy to drive the growth and advancement of the Indian boiler and ancillary sector.

From the President's desk.



This Newsletter aims to provide IBMA members an industry-wide update covering recent technological advances, fuel transition pathways, safety best practices, recent and forthcoming regulatory changes, environmental and incentive programmes affecting the boiler sector, workforce and training priorities,

The aim is to equip IBMA members with authoritative, practical guidance for strategic planning, compliance and product development.

The Indian boiler industry is at a pivotal moment. Regulatory modernization (replacement of century-old statutes), accelerating adoption of low-carbon fuels (biomass, Process heat electrification and hydrogen-ready systems), advances in heat-recovery and control technologies, and widespread digitalization (IIoT and predictive maintenance) together present both opportunity and responsibility.

Regulations:

The Boilers Bill, 2024, introduced in India to replace the Boilers Act of 1923, brings several key amendments aimed at modernizing boiler safety regulations and enhancing ease of doing business.

Key Amendments in the Boilers Bill, 2024

- 1. Decriminalization of Minor Offences:** The Bill decriminalizes three out of seven offences related to boiler safety, converting penalties from criminal sanctions to fines. This aligns with the Jan Vishwas (Amendment of Provisions) Act, 2023, which focuses on reducing unnecessary criminalization in regulatory frameworks. **Streamlined Penalties:** For non-criminal offences, the Bill introduces a system of fines and administrative penalties, ensuring quicker resolution and reducing the burden on the judicial system.
- 2. Enhanced Safety Standards:** The Bill retains stringent safety measures, including mandatory registration and certification of boilers, inspections during manufacturing and installation, and prior approval for alterations and repairs. **Regulatory Oversight:** State governments are empowered to appoint inspectors for certification and inspection, with provisions for third-party inspections. The Central Boilers Board is tasked with framing regulations to ensure uniform safety standards across the country.



3. **Exemptions and Special Provisions:** The Bill allows state governments to exempt certain areas or types of boilers from specific provisions, such as those with low capacity or pressure, or those used in emergencies.

4. **Accident Reporting Requirements:** All boiler-related accidents must be reported within 24 hours, with detailed information provided to inspectors to facilitate timely investigations.

These amendments aim to modernize boiler safety regulations, reduce unnecessary criminalization, and streamline compliance processes, thereby enhancing industrial safety and promoting ease of doing business in India.

Boiler Star-Labelling Program by Bureau of Energy Efficiency, Ministry of Power, Government of India.

A gist of BEE presentation:

Market Assessment Highlights - Phase 1 (2011 Study)

Scope: Boilers up to 10 TPH.

Sales: Approx. 1600 units/year (FY10).

Key Stakeholders:

National Productivity Council

Thermax Limited

Forbes Marshall

Industrial Boilers

Energy Pack Boilers

Transparent Energy Systems.

Fuel Usage:

Oil-fired: 45.7%

Rice husk: 32.6%

Coal: 8%

Gas: 5.8%

Estimated Impact: 12.3 million Mtoe energy savings and 3.8 million tonnes CO₂ reduction over 10 years.



Phase 2 (2022–23 Study)

Sources:

Allied Market Research
State Boiler Boards
Boiler manufacturers

Market Growth:

Value: INR 5859 Cr (FY19) → INR 8831 Cr (FY30), CAGR 3.8%.
Volume: 2400 units (FY19) → 3617 units (FY30).

Construction Type:

Water tube: 78%
Fire tube: 22%

Fuel Type:

Coal: 62%
Oil: 18%
Gas: 12%
Others: 8%

Industry Insights:

Major Manufacturers: (70% Market Share)

- Thermax Limited
- ISJEC
- Forbes Marshall
- Industrial Boilers
- Energy Pack Boilers
- Transparent Energy Systems.

Manufacturing Clusters: Maharashtra, Gujarat, Karnataka (90% of production).

IBR vs Non-IBR Boilers:

IBR:

>25 litres water capacity.
>3.5 kg/cm² pressure.

Non-IBR:

<22.75 litres.
<1 kg/cm² pressure.



Technical Performance:

Efficiency Range (NCV basis):

Oil/Gas (Condensing): 96–102%

Oil/Gas (Non-condensing): 92.6–95%

Coal: 84.5–88.9%

Biomass: 84.5–88.6%

Efficiency Influencers: Economizers, air pre-heaters, waste heat recovery.

Star Labelling Program Overview

- **Launch:** Voluntary phase from March 1, 2024 to December 31, 2026.
- **Standard:** IS 13979:1994.
- **Scope:** Boilers using coal, biomass, oil, and natural gas under IBR.
- **Efficiency Metric:** Thermal Efficiency (%) on NCV basis.

Star Rating Criteria					
Fuel Type	1 Star	2 Star	3 Star	4 Star	5 Star
Natural Gas	88–92%	92–94%	94–96%	96–98%	≥98%
Oil	88–90%	90–92%	92–94%	94–96%	≥96%
Coal	80–82%	82–84%	84–86%	86–88%	≥88%
Biomass	80–82%	82–84%	84–86%	86–88%	≥88%

Registration Process:

Brand Registration

- **Portal:** beestarlablel.com
- **Fee:** ₹1,00,000 (large), ₹25,000 (SSI).
- **Documents:** Company registration, ISO 9001, trademark, SSI certificate, signed declaration.

Model Registration

- **Fee:** ₹2,000 + ₹200/TPH per unit sold.
- **Documents:** NABL/ILAC/APLAC test report, sample label, test results.

Timelines



- Brand registration: ~15–60 working days.
- Model registration: ~15–60 working days.

Industry Feedback & Discussion Points:

1. **Low Participation:** Attributed to voluntary nature
2. **Training Needs:** Requested workshops in industrial hubs (e.g., Surat, Mumbai)
3. **Definition Clarity:** Need to define “Packaged Boiler system” and stakeholder roles
4. **Registration Timing:** Suggest aligning with IBR provisional certification
5. **Customization Challenge:** Each boiler is unique; “family of models” not feasible

(View of BEE and not acceptable to the Boiler Manufactures – Manufactures want the family of boiler models to be approved)

6. **Registration Flow:**

Brand registration precedes model registration

Multi-fuel boilers labelled by declared primary fuel

7. **Scope Limitation:** Cap program at ≤ 20 TPH boilers

8. **Standardization:** Call for uniform fuel specs, ambient conditions, and test protocols

Recommendations & Next Steps:

Mandatory Enforcement: From 1st January 2027

Manufacturer Survey: BEE to circulate questionnaire on:

Market trends

Energy savings potential

Technical parameters

Defined stakeholder roles

Follow-up Meeting: Scheduled for November 2025 to finalize implementation roadmap.

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Credits: This article is a Gist from the BEE Minutes & PPT.

Technology:



Waste Heat Recovery (WHR):

WHRB, Economizers are proven routes to save fuel and reduce emissions in the cement, steel, glass and chemical sectors continues to grow. Efficient WHR deployment reduces specific fuel consumption and carbon intensity.

Biomass utilisation:

The government of India has mandated that 10% Bio mass be utilised in all power plants in India.

Punjab's Subsidy Scheme for Paddy Straw Boilers:

In May 2025, the Punjab government introduced a capital subsidy scheme to encourage industries to adopt paddy straw-based boilers. Key details include:

Subsidy Amount:

₹1 crore for an 8-tonne capacity boiler

₹2 crores for a 16-tonne capacity boiler

₹50 lakhs for converting existing boilers to paddy straw-based systems (8-tonne)

₹1 crore for conversions (16-tonne)

Operational Requirement: Industries must use paddy straw as fuel for at least five years; non-compliance may lead to subsidy recovery.

Eligibility: Applicable to existing industrial units with a "Consent to Establish" certificate from the Punjab Pollution Control Board issued after February 20, 2025.

Utilization Targets and Progress: Punjab aims to manage 19.32 million tonnes (MT) of paddy straw in 2025, with 7.06 MT through ex-situ methods like industrial boilers. Approximately 3.5 MT is targeted for industrial boiler consumption.

Challenges in Implementation

- **Supply Chain Issues:** Limited storage infrastructure and quality degradation during storage lead to annual losses of 15–25% in feedstock quality.
- **Resistance from Brick Kilns:** Legal challenges have delayed mandatory adoption of paddy straw-based fuel blends in brick kilns.
- **Operational Shortfalls:** Thermal power plants in Punjab have not met the mandated 7% biomass co-firing target, achieving only 1.8% to 3.99% utilization due to factors like rainfall and supply disruptions.



Technical Considerations

Direct use of raw paddy straw in boilers is inefficient and can damage equipment due to high moisture content, ash, and silica levels. Pelletizing or torrefying the straw enhances its calorific value and combustion efficiency, making it a more viable option for industrial use.

Conclusion

While policies like Punjab's subsidy scheme have incentivized the adoption of paddy straw-based boilers, challenges such as supply chain inefficiencies, legal hurdles, and operational shortfalls hinder full implementation. Addressing these issues through improved infrastructure, legal clarity, and enhanced compliance monitoring is crucial for the success of these initiatives.

Closing Remarks:

IBMA members are encouraged to see this News Letter as an opportunity to raise industry standards, offer higher-margin services, and lead the heat sector's energy transition. With evolving regulations, decarbonisation pressures, and digital advancements, manufacturers who invest in quality, compliance, and customer satisfaction are best positioned to thrive.

We invite members to submit articles on their product portfolios and share any regulatory enforcement updates with the IBMA Secretariat for the next quarter. This will help us coordinate policy responses, provide practical guidance, and publish valuable insights for the industry.

Yours sincerely,

Executive Support

Indian Boilers Manufacturers Association (IBMA).

We are in the process of introducing a new name, we are pleased to share our new logo:



This document is a technical and strategic update prepared for IBMA members. For any clarifications, template documents (checklists, sample incident reporting letter, training slides) or to request a presentation/workshop, please contact the IBMA Secretariat.