

Note for the launch of Packaged Boiler under BEE's S&L Program

About Packaged Boiler:

Packaged Boiler is a factory-made ready to use boiler, used for requirement of steam and hot water for all process industries. Boilers find application in textile industry, metals & mining, chemical industry, cement, pharmaceuticals, rice mills and sugar plants etc. Boilers also account for a major portion of thermal energy consumption in the commercial sector such as hotels & hospitals. Bureau of Energy Efficiency (BEE) aims to improve the efficiency of packaged boiler to reduce the overall fossil fuel consumption for reducing the energy intensity and GHG emissions of our industries.

Product Classification:

Packaged Boilers are classified as IBR (Indian Boiler Regulation) compliant boilers and non-IBR compliant boilers. Classification is also done based on the type of fuel used in boilers. IBR compliant boilers exhibit a water holding capacity of 25 liters and steam pressure of 3.5 Kg/cm². They support varying capacities, ranging from 1 tonne/hour to 1,650 tonne/hour. Non-IBR compliant boilers are available in various capacities from 0.05 tonne/hour – 0.85 tonne/hour. They are widely used for small applications in both industrial and commercial segments. Based on fuel type, Packaged Boilers are classified into Coal fired, Oil fired, Gas fired and Biomass fired boilers.

Market Scenario:

The boiler market in India is expected to grow from INR 5,859 Crores in FY19 to INR 8,831 Crores in FY30 with an expected CAGR of 3.8%. As per BEE's Market assessment, it is projected that the market sales for packaged boilers are **3617 units in 2030**. Market share of IBR approved boilers with a **capacity less than 10 TPH is about 79% and between 10 TPH to 20 TPH is about 16.5% and above 20TPH is about 2.7%**, whereas around 1.7% boilers are sold annually under the non-IBR category.

Energy Savings potential:

The penetration of EE label boilers is expected to increase from 10% in 2024 to 100% in 2033. In the next 10 years of implementation of S&L programme for packaged boilers, from 2024 to 2033, a cumulatively **energy savings of ~ 3.1 million Tonne of Oil Equivalent (TOE) and CO₂ emission reduction of 7.23 million Tonne of CO₂ equivalent are envisaged.**



Key highlights from Packed Boiler Schedule:

- The Standards & Labeling program for packaged boiler is being launched under voluntary phase on 1st March, 2024. The validity of the program may be 1st March, 2024 to 31st December, 2026.
- The proposed star rating table for packaged boiler across all capacities under Indian Boiler Regulation (IBR) with or without air pre-heater, economizer, or waste heat recovery system, covered under the scope of IS 13979: 1994 as amended from time to time, being manufactured, imported or assembled for the purpose of commercial sale in India under voluntary phase is given below;

Star Rating Table for Packaged Boiler
(Valid from 1st March, 2024 to 31st December, 2026)

Star Rating	Thermal Efficiency (%) on Net Calorific Value (NCV) basis			
	Natural Gas	Oil	Coal	Biomass
1 Star	>= 88% and < 92%	>= 88% and < 90%	>= 80% and < 82%	>= 80% and < 82%
2 Star	>= 92% and < 94%	>= 90% and < 92%	>= 82% and < 84%	>= 82% and < 84%
3 Star	>= 94% and < 96%	>= 92% and < 94%	>= 84% and < 86%	>= 84% and < 86%
4 Star	>= 96% and < 98%	>= 94% and < 96%	>= 86% and < 88%	>= 86% and < 88%
5 Star	>= 98%	>= 96%	>= 88%	>= 88%

- Star rating of packaged boiler would be based on thermal efficiency in accordance with IS 13979:1994 as amended from time to time.
- The labeling fee for affixation of label on each unit (packaged boiler) is to be INR 200 /- (Rupees Two Hundred Only) per Tonne per Hour (TPH).

