FGD: 75 of 605, and the Meaning of "Compliance"

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Background and Context

"In how many power plants has FGD been installed" and "how many power plants comply with the rules" are two different questions. The first is a count of a technology; the second is a measure of rules, and the measure of rules need not be the same for every unit. In this answer of 30 July 2026 both numbers come together, so the real test of reading is which number belongs to which measure. No outside background has been added in this article; everything is from the answer and its annexure.

Why in the News

On 30 July 2026, in the answer to Lok Sabha Unstarred Question 1886, Minister of State for Power Shri Shripad Naik gave information on the progress of FGD in coal-based thermal units, the situation in Jharkhand, fly ash, biomass co-firing and steps for renewable energy. This article is based on that answer and annexure; the fact-check date is 19 October 2026. It makes no claim about any position or any new advance in October 2026.

Five Cautions for Reading the Answer

(1) 75 of 605 are FGD-installed units; this is not a count of "complying units", and the answer does not call the remaining units "non-complying" either. (2) In the statement that "all 13 comply" in Jharkhand, FGD is in only 3 units; the remaining 10 are category C and for them the answer refers to the stack-height standard. (3) "All 13 comply" is the government's statement in the answer; we have not tested it separately and have kept the answer's claim and our own explanation apart. (4) The answer has no timeline, cost or status of the remaining units for FGD, and no plan to reduce or phase out thermal capacity either; part (e) is answered with steps to expand renewable energy. (5) The date of 297.37 GW and 54.18% is 30.06.2026, while the answer is of 30.07.2026; do not read it as a measure of coal units' compliance.

Key Facts and Figures

Details of the answer (verbatim)	**Lok Sabha Unstarred Question 1886, answer 30.07.2026; Ministry of Power; answered by: Minister of State Shri Shripad Naik; questioners: Shri Vijay Kumar Dubey, Shri Amar Sharadrao Kale, Shri Pradeep Purohit, Shri Naba Charan Majhi, Shri Khagen Murmu, Shri Chandra Prakash Choudhary; title: "Installation of FGD System in TPPs".**
The five parts of the question	(a) measures to reduce the environmental impact of coal-based thermal plants; (b) progress in installing FGD in the country including Jharkhand; (c) initiatives for the use and scientific management of fly ash; (d) measures for co-firing of biomass and municipal solid waste (MSW); (e) details of the strategy for balance between thermal expansion and environmental sustainability.
FGD count	Of the 605 thermal units classified by the Task Force (category A - 66, B - 72, C - 467), 75 units have FGD installed (A - 19, B - 4, C - 52).
Jharkhand	Of 13 units, 3 have FGD installed; the remaining 10 are in category C. Under MoEF&CC's notification of 11.07.2025, category C units have to meet the stack-height standards fixed in notification G.S.R. 742(E), 30.08.1990. The answer: "all 13 TPP units in Jharkhand comply with the applicable norms".
Emission standards	Stack-emission standards for SPM, SO2 and NOx in MoEF&CC's notification of 07.12.2015 and later amendments; for compliance, plants have adopted technologies such as ESP, FGD and NOx combustion modification. The PAT scheme is for energy efficiency, which contributes to reducing CO2.

Biomass co-firing	**(a)(i): Ministry of Power's comprehensive policy of 07.11.2025: 5-7% blending of biomass pellets and/or MSW-based torrefied charcoal with coal. (d)(i): the policy of 17.11.2017, amended on 08.10.2021, 03.05.2023 and 06.06.2023, and the revised comprehensive policy issued in "November 2025" (the same 5-7%). In both places the form of the date is kept as printed.**
Fly ash	MoEF&CC's ash notification of 31.12.2021 (amendments 30.12.2022 and 01.01.2024): eco-friendly use of 100% of ash from coal/lignite plants; Ministry of Power's revised guidelines of 30.01.2026 (procedure for disposal of current and legacy ash); ash-dyke guidelines of CEA and CPCB.
Crop residue and bioenergy	MNRE's National Bioenergy Programme (central financial assistance); the Agriculture Ministry's Crop Residue Management (CRM) scheme since 2018-19, in Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and Delhi: 65% credit-linked back-ended subsidy on the capital cost of machines for paddy-straw supply-chain projects.
Capacity (as of 30.06.2026)	Non-fossil installed capacity 297.37 GW, 54.18% of the total 548.86 GW (both numbers and the percentage are printed in the answer).
What is directly not in the answer	A timeline or cost for installing FGD; the status of the remaining units; the definition of categories A, B, C; any plan to reduce or phase out thermal capacity. Part (e) is answered with steps to expand renewable energy. "Not in the answer" does not mean that no such figure or plan exists at all.

Annexure (part e): steps for renewable energy, i to x

i	**PM-KUSUM, PM Surya Ghar: Muft Bijli Yojana, national programme on high-efficiency solar PV modules, new solar scheme for tribal/PVTG settlements (PM JANMAN, DA JGUA), National Green Hydrogen Mission, VGF scheme for offshore wind**
ii	Solar parks and ultra mega solar projects: land and transmission for RE developers
iii	100% waiver of ISTS charges: solar and wind projects commissioned by 30 June 2025 (waiver declining 25% a year until June 2028); co-located BESS until June 2028; hydro PSPs whose construction work is awarded by June 2028; green hydrogen until December 2030; offshore wind until December 2032
iv	Up to 100% FDI permitted through the automatic route
v	Green Energy Corridor scheme: new transmission lines and sub-stations
vi	Suitable transmission plan prepared for the faster RE target
vii	VGF for BESS: Rs. 3,760 crore in September 2023; in June 2025 another scheme of Rs. 5,400 crore from PSDF for 30 GWh BESS capacity
viii	After RPO, the RCO trajectory notified until 2029-30; applicable to all designated consumers under the Energy Conservation Act 2001, with penalty for non-compliance
ix	"Strategy for Establishment of Offshore Wind Energy Projects" issued
x	PLI scheme for high-efficiency solar PV modules

Abbreviated form of the annexure; dates, amounts and deadlines as printed.

Our Calculation

The count below is our calculation from the answer's numbers; the answer did not give these.

FGD: 75 / 605 = 12.4% (our calculation). The number of units for which the answer does not count FGD as "installed" is 605 - 75 = 530; category-wise 47 (A), 68 (B) and 415 (C). This is only subtraction: the answer says nothing separate about these 530, so we say nothing about their FGD plans or progress. The definition of categories A, B, C is not in the answer, so we do not give a comparison or ranking of the categories. **Jharkhand:** of 13, 3 have FGD and 10 are in category C; that is, of the 467 category C units counted in the answer, 10

are Jharkhand's. **Capacity:** 548.86 - 297.37 = 251.49 GW remaining capacity (our calculation); the answer does not detail it, so we do not link it to any fuel. **Check:** 66 + 72 + 467 = 605 and 19 + 4 + 52 = 75, both match the answer's totals.

Analysis: Three Measures and What Is Not in the Answer

A count of technology versus a measure of rules. In part (b) the count is of FGD: 75 of 605. But the next sentence about Jharkhand speaks of the measure of rules: the stack-height standard for 10 category C units, and then the statement of all 13 complying with "applicable norms". So reading "13 of 13" as "FGD in 13" would be wrong; in the answer FGD is in only 3.

"Applicable norms" can differ unit by unit. According to the answer, category C has a stack-height standard in the notification of 11.07.2025. This shows a separate route for category C units, but about the basis of this route, its conditions or comparison with FGD the answer says nothing; we too do not go into interpreting it.

Absence of timeline and cost. Question (b) asks for "progress"; the answer gives a number, but no timeline or cost for the remaining units. This does not mean these do not exist; only that they are not in this answer.

The answer to (e) is only one-sided. The answer on the strategy for "balance between thermal expansion and environmental sustainability" contains the share of renewable energy (54.18%, as of 30.06.2026) and the annexure's ten steps. About thermal capacity there is no plan, reduction or phasing out in the answer; we do not speculate on it.

The remaining measures are separate pillars. Biomass co-firing (5-7%), the notification for 100% use of fly ash and the ash-dyke guidelines, and the 65% subsidy on paddy-straw machines are separate pillars; the CRM subsidy is not directly for thermal plants but for machines of the straw supply chain. The answer has no figure on the outcomes of these measures (how much biomass was burnt, how much ash was used).

Way Forward: Unanswered Questions

The following things are not separately in the answer, and they will become clear only from later parliamentary answers or the ministry's data: (i) the FGD timeline, cost and status for the remaining 530 units; (ii) the definition of categories A, B, C; (iii) the basis of the stack-height route for category C and its monitoring; (iv) actual figures for biomass co-firing and ash use; (v) any plan regarding thermal capacity. We have not speculated on any of these.

Points Useful for the Exam

Prelims: according to the answer, the MoEF&CC notification of 07.12.2015 for emission standards (SPM, SO2, NOx) of thermal plants; compliance technologies: ESP, FGD, NOx combustion modification; the PAT scheme for energy efficiency; 5-7% blending of biomass/MSW-torrefied charcoal; ash notification 31.12.2021 (100% use); 65% credit-linked

back-ended subsidy in the CRM scheme; non-fossil capacity 297.37 GW (54.18%, as of 30.06.2026). **Mains:** technology-based versus standard-based compliance; the balance of thermal and renewable energy in energy transition; the linking of agriculture and energy policy (straw and biomass); the difference between a government statement and independent verification.

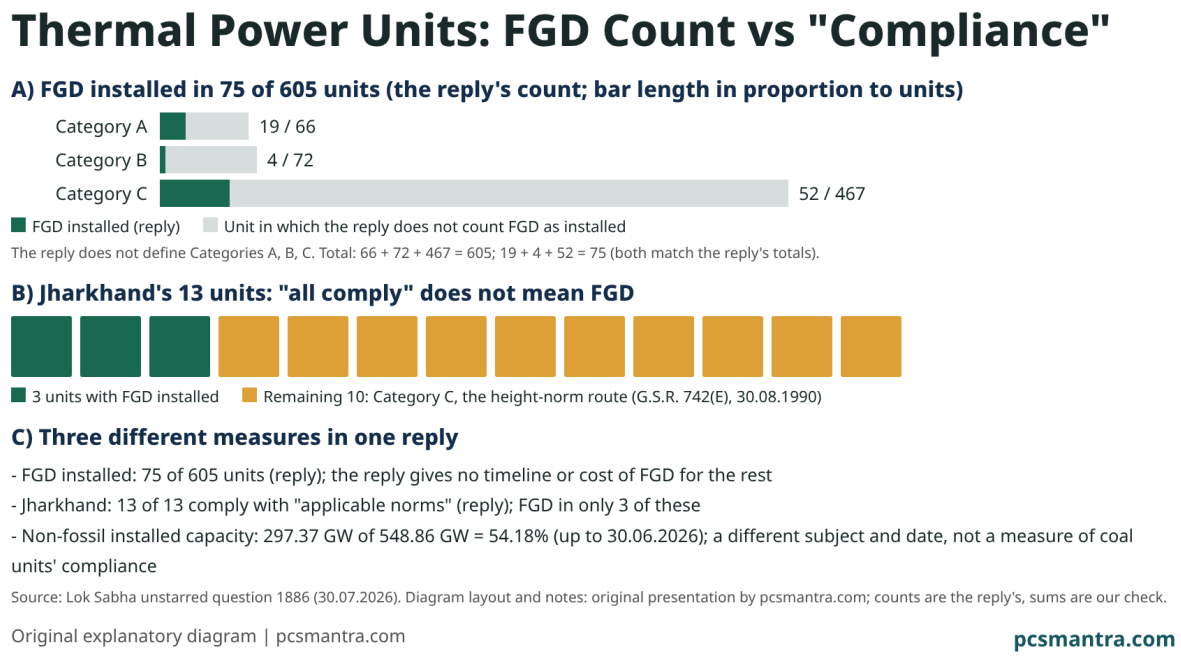
UPSC CSE Mains Style: Original Practice Question

In government data on the environmental compliance of thermal power plants, the "count of units fitted with a technology" and the "statement of compliance with rules" can be separate measures. Explain this difference and state what additional information is needed to assess compliance. (150 words, 10 marks)

Answer Outline

Introduction: Emission standards and the different routes to complying with them.

Main Body: The difference: count of a technology such as FGD versus a standard-based statement such as the category-specific stack-height route (the two should not be merged into one number); cautions: definition of categories, difference between a statement and independent monitoring, date and scope; additional information: unit-wise emission data, timeline and cost for the remaining units, methods of monitoring; improvement: unit-wise transparent reporting, separate mention of "statement" and "measured emission".



Conclusion: Keep the installation of FGD and compliance with the standards in force separate; judge compliance only from unit-wise measured emissions and monitoring.

Sources

- Lok Sabha Unstarred Question 1886, answer 30.07.2026 (with annexure)

Everything is from the answer and annexure of 30 July 2026; no outside background source is in this article. "Our calculation" is ours, not the government's.

Remember: according to the answer of 30 July 2026, FGD is installed in 75 of 605 units; of Jharkhand's 13, 3 have FGD and according to the answer all 13 comply with "applicable norms" - this is not a count of FGD; the answer has no timeline, cost for FGD or any plan for thermal capacity.