

Press Release

TSPL's Stubble-to-Biofuel Circular Model Halves Farm Fires in Punjab's Mansa **- Helps Reduce Stubble-Burning Impact on Delhi-NCR Air**

04 December 2025 | Mansa, Punjab: Talwandi Sabo Power Limited (TSPL), Vedanta Power's 1,980 MW supercritical thermal power plant in Punjab's Mansa, has activated the state's most advanced and large-scale circular biofuel ecosystem, delivering measurable improvements in air quality and a sharp reduction in stubble-burning in what was once one of Punjab's major hotspots for farm fires.

Data released by district administration data reveals that Mansa has recorded a dramatic decline in stubble burning incidents in harvesting season- from **2,253 cases in 2023 to 618 in 2024**, and further down **to 306 in 2025**, amounting to an **87% reduction** in just two years and a **50.5%** drop in one year. Of the district's 244 villages, **104 reported zero farm fires in 2025**, including earlier high-burn hotspots such as **Heron Kalan** and **Dodra**, which fell from **45 and 31 cases** respectively in 2023 to zero this year.

The Deputy Commissioner of District Mansa Mrs. Navjot Kaur, I.A.S. said, *"It has been our consistent endeavour to make stubble-burning prevention a long-term, sustainable model for the district. TSPL's 360-degree approach, supporting stubble management, enabling farmers to sell paddy straw rather than burn it, and converting this residue into clean energy, has played a significant role in this transition. The sharp decline in farm fires across the region reflects the impact of this collaborative effort."*

TSPL's supercritical plant cannot process conventional biomass and requires high-density, carbon-neutral biofuels, not easily available in the market. To overcome this challenge and enable large-scale adoption of torrefied biomass pellets, TSPL championed the creation of a robust ecosystem to ensure pellets' steady supply. The company supported its partners in setting up **Punjab's largest torrefied bio-pellet manufacturing facility with a capacity of 500 tons per day**, near its plant. This has helped convert agricultural residue, primarily paddy straw residue, procured locally, and converted into a high-value fuel source, creating an assured buy-back market for farmers.

Not only this, enhanced biomass generation and better access to torrefied pellets have enabled TSPL to **co-fire over 2,50,330 MT of biomass** as of 30 November 2025, **achieving 5.07%** of its year-to-date co-firing target. Improved biomass utilization is encouraging farmers to adopt cleaner crop-residue management practices, reducing stubble burning across the harvest season. This resulting decline has directly contributed to better air quality and reduced seasonal smog in Punjab and the NCR, traditionally impacted by parali (crop stubble) burning.

Rajinder Singh Ahuja, CEO-Power, Vedanta Limited, said, *"Managing paddy stubble effectively is central to improving Punjab's air quality. By working closely with farmers in neighbouring villages and our partners across the stubble-to-biofuel value chain, TSPL has created assured economic incentives for farmers and contributed to an 87% reduction in farm fires in Mansa over the past two years. This shows how circularity and technology can drive district-wide impact and make the clean-energy transition inclusive. We remain committed to scaling this 'waste-to-wealth' model in line with India's net-zero goals."*

TSPL's flagship CSR initiative, *Navi Disha*, has been driving a large-scale *Paddy Straw Management* campaign to promote sustainable farming across the region. In the previous season, the programme helped prevent the burning of **20,040 acres** of farmland and enabled the procurement of **over 8 lakh tonnes** of stubble across the Malwa belt, including **73%** of Mansa's stubble produce, through its partners.



More than **26 villages** were sensitised through **30+** outreach activities, including mobile awareness vans, *nukkad nataks*, demonstrations on mulching, mushroom farming, and the use of *Happy Seeder* and *Super Seeder*, along with the distribution of bio-decomposer kits and Pusa capsules.

Building on this momentum, TSPL has further scaled the campaign this year, saving **over 28,180 acres** of farmland from farm fires. The initiative has engaged **nearly 3,800 farmers** through structured, high-impact interventions aimed at advancing sustainable agriculture and driving the district towards **minimal stubble burning**.

Reflecting the initiative's influence at the grassroot, farmer Kewal Singh from village Kotli Khurd shared that he has not burned paddy straw for the past four years, choosing sustainable practices that have strengthened the health of his farmland. He noted that regular awareness sessions and guidance from TSPL have supported him and many others in moving away from stubble burning.

Vedanta Power's TSPL supplies **35% of Punjab's electricity** and continues to integrate biomass co-firing as a core decarbonization pathway. Its model offers a replicable integrated template for other districts and states seeking long-term solutions, combining advanced technology with community empowerment, to turn the tide on air pollution.

About Vedanta Power:

Vedanta Group is a global leader in critical minerals, transition metals, energy, and technology, with operations in India and abroad. Its Power business is one of the largest private sector power producers with 12,000 MW of thermal power capacity and plays a pivotal role in generating and meeting the nation's energy requirement. **Vedanta Power** has plants in Mansa, Punjab (Talwandi Sabo Power Limited); Singhitarai, Chhattisgarh (Vedanta Ltd. Chhattisgarh Thermal Power Plant); Tirupati, Andhra Pradesh (Meenakshi Energy Limited); and Jharsuguda (Jharsuguda IPP plant), with a combined merchant power capacity of 4,780 MW, serving various discoms, utilities, and industries across the nation.

Talwandi Sabo Power Limited (TSPL) is a highly advanced, supercritical 1980 MW world-class thermal power plant in Banawala, Mansa district, Punjab which supplies 100% of the electricity it generates to Punjab State Power Corporation Ltd and powers 35% electricity needs of Punjab state. TSPL deploys globally benchmarked environment and safety practices making it Punjab's greenest thermal power plant, and among the foremost zero-harm, zero-waste, zero-discharge thermal power producers in the country. The plant has been instrumental in the socio-economic development of the region since inception. For more information, visit: <https://www.vedantalimited.com/eng/businesses-power.php>

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