NATIONAL POLICY PROPOSAL

Accelerating Pakistan's Agricultural-Residue Pellet Industry

A practical mandate-plus-incentive model for cleaner industrial heat, reduced crop burning and lower pressure on forests

DECISION REQUEST **Approve an inter-ministerial 12-month pilot that creates guaranteed demand for certified agro-residue pellets, finances new production capacity and phases out untraceable boiler wood.**

What governments are doing

Leading programs use four tools together: mandatory demand, capital grants, concessional finance and sustainability rules. The examples below are the most relevant models for Pakistan; they are not an exhaustive list of every national or sub-national scheme.

Jurisdiction	Policy instrument	Transferable lesson
India	Mandatory demand + grants + finance	5% biomass co-firing from FY2024-25, rising to 7% from FY2025-26. Pellet plants receive central assistance of INR 0.9 million per tonne/hour, capped at INR 4.5 million; pellet manufacturing is eligible for priority-sector lending.
Japan	Long-term revenue support	Feed-in tariff / premium support created bankable demand for biomass electricity. The model shows the value of predictable offtake, while newer sustainability controls show why traceability must be built in from the start.
South Korea	Renewable certificates - now tightened	The Renewable Portfolio Standard and certificates built large pellet demand. Support for coal co-firing and imported forest biomass is now being reduced: a warning to prioritize domestic residues, not indiscriminate wood.
United Kingdom	Capital grant for clean heat	The Boiler Upgrade Scheme provides GBP 5,000 toward eligible biomass boilers in qualifying rural/off-gas-grid buildings, subject to technology and fuel standards.
France / EU	Renewable-heat funding + binding framework	France's Heat Fund finances renewable heat for businesses, communities and heat networks. The EU Renewable Energy Directive allows national support schemes but applies sustainability and greenhouse-gas criteria.
United States / Canada	Project grants and local fuel markets	US Forest Service grants support wood-energy and pellet-market projects. Canadian programs have funded community biomass heat, briquette production and replacement of diesel/coal using local residues.

The lesson for Pakistan

A subsidy alone will not create a stable industry; a mandate without supply will fail. Pakistan should introduce both together, begin with agricultural residues such as cotton stalk, rice husk, maize cobs, bagasse/trash and clean processing residues, and explicitly reject illegally harvested or untraceable forest wood.

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Why Pakistan should act now

1 Turn crop waste into rural income

2 Protect forests and reduce smog

3 Help exporters decarbonize industrial heat

Pakistan faces three linked failures: farmers often lack a paying market for surplus residues; mills switching away from coal may buy untraceable firewood; and pellet producers cannot invest without dependable offtake. Textile buyers increasingly seek supplier emissions data and reductions, so cleaner process heat also protects export competitiveness. Sustainable biomass is not automatically zero-carbon, but verified residues can lower lifecycle emissions while creating domestic value.

Recommended Pakistan Agro-Residue Pellet Programme

- **1. Create demand.** Require designated coal- and untraceable-wood-fired industrial boilers to obtain at least 5% of annual thermal energy from certified domestic agro-residue pellets/briquettes in Year 1, 10% in Year 2 and 15% in Year 3, subject to verified supply and boiler compatibility.
- **2. Start with a controlled pilot.** Select 20 textile and other export-oriented mills in Punjab and Sindh. Measure fuel input, steam output, cost per tonne of steam, stack emissions, ash, clinker risk and operating reliability before national scale-up.
- **3. Finance capacity.** Provide a performance-based capital grant of 20% of eligible new pelletizing and emission-control equipment, capped per tonne/hour; establish SBP-backed concessional green finance with partial credit guarantees for SMEs.
- **4. Guarantee bankable offtake.** Publish standard quality-linked purchase contracts of 3-5 years, transparent regional benchmark prices and a verified producer/vendor registry. Permit indexed transport adjustments for seasonal residues.
- **5. Reward users.** Allow accelerated depreciation, reduced import duty on specialized pellet equipment unavailable locally, and energy-audit support for boiler conversion. Make incentives conditional on metering and compliance.
- **6. Protect forests and air quality.** Require legal-origin records for industrial wood fuel. Do not certify whole trees from natural forests. Require stack limits and appropriate particulate controls; biomass combustion still creates local air pollutants.
- **7. Establish standards and traceability.** PSQCA/NEECA should issue separate grades for wood residues and agricultural pellets covering moisture, calorific value, ash, durability, sulphur, chlorine, nitrogen, ash-fusion temperature and contaminants, supported by batch testing and digital chain-of-custody records.
- **8. Pay farmers and aggregators.** Develop district residue maps, collection centres and baling/chipping support. Use transparent farm-gate contracts so the policy creates rural income rather than only factory-level benefit.

Institutional ownership and 12-month action

Timing	Lead	Deliverable
0-90 days	Climate Change + Industries + NEECA	Notify task force; map residues and boiler demand; draft standards, financing and pilot rules.
3-6 months	SBP + PSQCA + provincial EPAs	Launch finance window, laboratory protocol, producer registry and wood-origin compliance.
6-12 months	Industries + Commerce + APTMA/PTEA	Run 20-mill pilot; publish audited results; recommend national mandate and annual targets.

Proposed government decision

Constitute an inter-ministerial task force within 30 days and authorize NEECA to prepare the pilot notification, technical standard and financing framework for approval within 90 days.

Selected official sources

India: Ministry of Power / SAMARTH (samarth.powermin.gov.in) and MNRE Biomass Programme (mnre.gov.in/en/bio-mass/). EU: Renewable Energy Directive, consolidated 16 Jul 2024 (eur-lex.europa.eu, CELEX 02018L2001-20240716). UK: Ofgem Boiler Upgrade Scheme (ofgem.gov.uk). France: ADEME Renewable Heat Fund (ademe.fr/en/our-missions/funding/). Japan: METI FIT/FIP framework (meti.go.jp). US: USDA Forest Service Wood Innovations Grants (fs.usda.gov). Canada: Natural Resources Canada bioenergy and funded-project pages (natural-resources.canada.ca).

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