



PROJECT TITLE	Integrated Coal Waste-to-Energy Demonstration Project		
PRINCIPAL INVESTIGATOR	Dr. A. K. Sharma	INSTITUTE	National Institute of Coal Research
SUBMISSION DATE	15 Oct 2025	REQUESTED BUDGET (INR)	₹ 18,500,000
PROJECT DURATION	30 months	PROPOSAL ID	MOC-PROP-2025-0047

78%

Overall Score

32

Risk Index

₹185 Lak

Requested Funds

30 mon

Duration

80%
Novelty

74%
Feasibility

40%
Cost Efficiency

60%
Deliverable

Metric Definitions

Novelty

How original and innovative the idea is compared to existing work. It shows how much the proposal advances or differs from current solutions.

Feasibility

How practical and achievable the project is with available resources. It checks whether the plan, timeline, and methods can realistically succeed.

Cost

The total budget required to complete the project. Includes manpower, equipment, materials, software, and operational expenses.

AI Score

An automated evaluation generated by an AI tool. It assesses clarity, completeness, relevance, and quality of the proposal.

Benefit to Coal

Coal is a dependable and cost-effective energy source that plays a major role in generating electricity. It also supports important industries like steel and cement production, making it valuable for economic development.

Deliverable

The measurable outputs the project will produce. These include reports, prototypes, models, datasets, or documentation.



Detailed Findings & Recommendations

Novelty

Score: 80; Changeable: 15

The proposal introduces an integrated coal waste-to-energy process combining gasification and carbon-capture at pilot scale. The approach appears genuinely novel and should be prioritised for further validation.

Recommended actions:

- Document prior art and clearly highlight novel integration steps versus published work.
- Provide pilot test plans and small-scale validation data to substantiate claimed innovations.
- Include IP or patent landscape notes where applicable to strengthen novelty claims.

Cost Justification

Score: 40; Changeable: 20

The budget broadly aligns with pilot-scale efforts but lacks detailed line-item breakdowns for high-value equipment. Several procurement entries above ₹5M require vendor quotes or justification.

Recommended actions:

- Provide detailed quotations for specialized equipment and vendor estimates for each major line item.
- Separate capital vs operational expenses and include lifecycle maintenance cost estimates.
- Clarify contingencies and explain assumptions behind unit costs to reduce budget uncertainty.

Technical Feasibility

Score: 74; Changeable: 10

Engineering plans and team experience indicate feasibility at pilot scale. Critical items include feedstock logistics, emissions control testing, and availability of pilot facilities for commissioning.

Recommended actions:

- Supply detailed feedstock supply agreements and contingency plans for variable feedstock quality.
- Include third-party testing schedules for emissions and demonstrate access to pilot facilities.
- Provide a commissioning plan with acceptance criteria and responsible parties for each milestone.

Deliverables

Score: 60; Changeable: 20

Proposed milestones are defined but need clearer acceptance criteria and measurable outputs for each tranche. Strengthening deliverable descriptions will help tie disbursements to verified progress.

Recommended actions:

- Attach a Gantt with milestone dates and specific, testable acceptance criteria for each deliverable.
- Define measurable KPIs (e.g., pilot throughput, emissions targets, energy recovery rates) per milestone.
- Propose verification methods and third-party sign-off procedures to enable tranche-based funding.

AI Detection

Score: 100; Changeable: 0

AI automation flagged several sentences as likely assisted. Review flagged passages and provide clarifications where needed.

Recommended actions:

- Review flagged sentences and provide clarifications or original drafts where possible.
- Annotate sections produced by automated tools and provide justification for their use.
- Ensure human-authored sections contain sign-off from team leads for critical claims.

Benefit Check

Score: 97; Changeable: 0

Benefit to coal industry: aligns with existing infrastructure and could reuse waste streams for energy recovery. Map expected co-benefits to regional coal infrastructure plans.

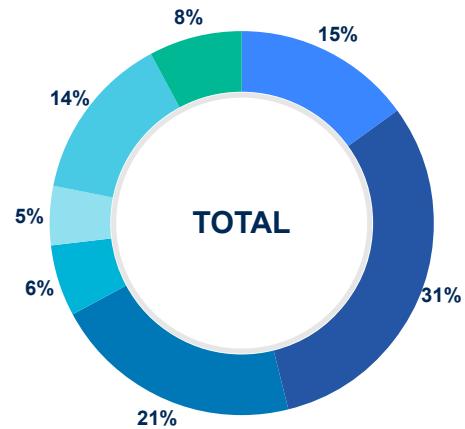
Recommended actions:

- Map co-benefits to regional coal infrastructure plans and stakeholders.
- Estimate potential operational savings and reuse streams with vendor input.
- Provide localized case studies or pilot data demonstrating benefit realization.

Financial Summary

Category

- **Training content development**
15% • ₹ 5,000
- **Instructor fees**
31% • ₹ 10,000
- **Technology and tools**
21% • ₹ 7,000
- **Participant materials**
6% • ₹ 2,000
- **Online learning platform**
5% • ₹ 1,500
- **Evaluation and certification**
14% • ₹ 4,500
- **Miscellaneous**
8% • ₹ 2,500



This graph/chart is linked to data and updates automatically

Details	Cost
Training content development Curriculum design Materials creation	15% ₹ 5,000
Instructor fees Compensation for AI/ML experts/trainers	31% ₹ 10,000
Technology and tools Software licenses Development tools and platforms	21% ₹ 7,000
Participant materials Workbooks Learning resources	6% ₹ 2,000
Online learning platform Subscription fees for e-learning platform	5% ₹ 1,500
Evaluation and certification Assessment tools Exams and certification costs	14% ₹ 4,500
Miscellaneous Contingency and unforeseen expenses	8% ₹ 2,500
TOTAL	₹ 32,500