



Overview of Rice Husk Biomass Power Plant Project

This presentation outlines a biomass power plant project that utilizes rice husks as feedstock. It includes a detailed analysis of the project's financial aspects, profitability assessment, and explores potential revenue streams generated from byproducts. The use of rice husks not only supports sustainable energy production but also contributes to waste management and offers opportunities for additional income through byproduct utilization.

Biomass Power Generation Project Overview



Installed Capacity

The plant is designed for biomass power generation, specifically utilizing rice husks.

Project Cost

The total project cost is estimated.

Daily Feedstock Requirement

Highlighting the need for a consistent supply of rice husk.

Power Generation & Revenue

72,000 kWh

Daily Electricity Generation

The plant generates about 72,000 kWh of electricity daily based on continuous operation at its full capacity.

N190

Selling Price per kWh

Each kilowatt-hour of electricity is expected to be sold at N190, leading to significant revenue potential.

N13,680,000

Total Daily Revenue

The total daily revenue from electricity sales amounts to N13,680,000.

Operating Costs Analysis

100%

64%

100%

Daily Operating Costs

Daily operating costs are calculated at N100,000 per hour, translating to a total of N2,400,000 for 24-hour operation.

Cost of Raw Materials

Cost of raw materials, specifically rice husks, is estimated at N50,000 per metric ton, leading to a daily expenditure of N4,320,000.

Total Daily Running Cost

Combining these, the total daily running cost stands at N6,720,000.

Profitability Analysis



Daily Profit

Derived from subtracting operating costs from total revenue.



Annual Profit

Calculated over 340 operational days.

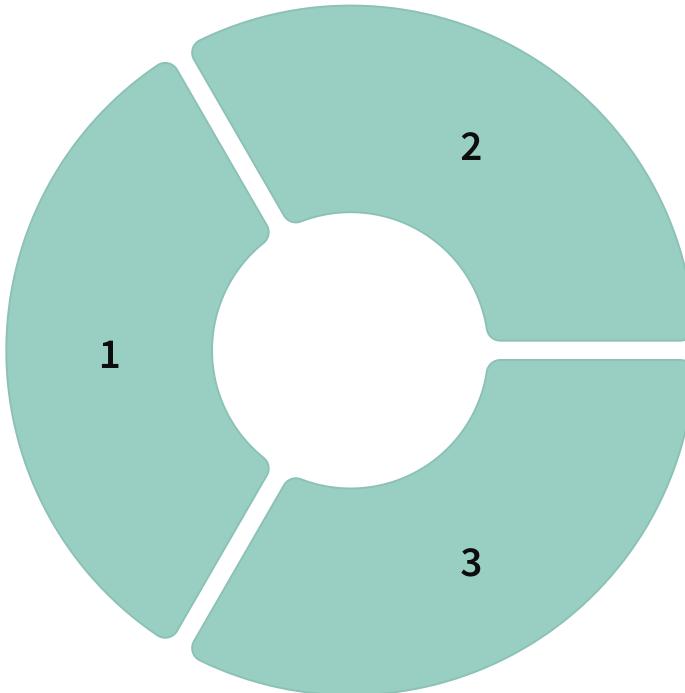


Annual Profit in USD

Converted from annual profit, with a payback period of around 3 years.

Byproducts & Additional Revenue Streams

Biochar
Can be sold as a soil enhancer, yielding 8-10% from the process.



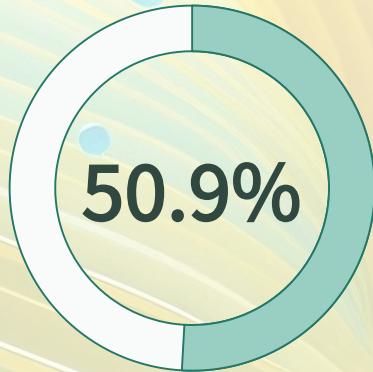
Condensate Water

Approximately 10% of the feedstock can be reused in cooling or process applications.

Tar and Carbon Credits

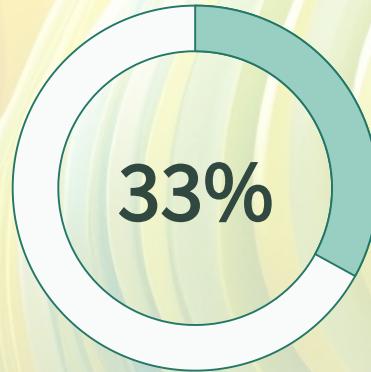
Other byproducts like tar and carbon credits are also potential revenue streams.

Key Financial Metrics Summary



Daily Profit Margin

The expected daily revenue is N13.68 million, supporting a 50.9% daily profit margin.



Annual ROI

The return on investment (ROI) estimated at 33% annually.



Annual Profit

Key financial metrics indicate an annual profit of about US\$1.63 million.



Environmental Impact of Rice Husk Power Generation

Waste Reduction

Utilizing rice husks for power generation contributes to waste reduction and encourages sustainable agricultural practices.

Low Carbon Footprint

The project has a low carbon footprint compared to fossil fuel power sources, supporting global efforts against climate change.

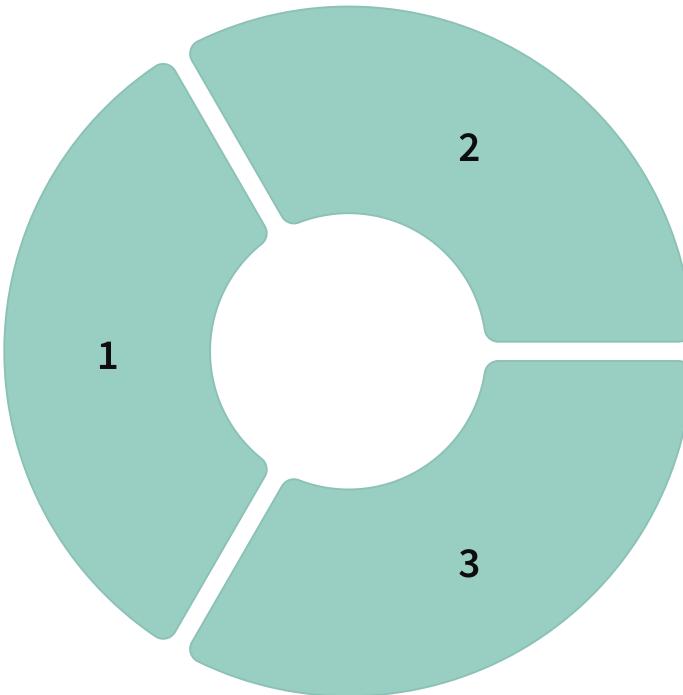
Carbon Credits Eligibility

The potential eligibility for carbon credits enhances the environmental value of the project.

Risks and Challenges

Supply Fluctuations

Consistent supply of rice husks is vital; fluctuations in agricultural output can affect feedstock availability.



Market Fluctuations

Market fluctuations in electricity prices and raw material costs may impact profitability projections.

Regulatory Challenges

Regulatory challenges in energy production and environmental compliance could pose potential issues.

Conclusion & Future Outlook



Sustainable Energy Solution

The Rice Husk Biomass Power Plant transforms agricultural waste into clean energy.



Profitability Projections

The project exhibits strong profitability projections along with additional revenue from byproducts.



Future Expansions

Future developments may include diversifying feedstocks and exploring new energy solutions for enhanced sustainability.